

THE  
JOURNAL  
OF THE  
ROYAL ASIATIC SOCIETY  
OF  
GREAT BRITAIN AND IRELAND.



VOLUME THE SEVENTH..

LONDON:  
JOHN W. PARKER, WEST STRAND.

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ART. I. *On the Intermixture of Buddhism with Brahmanism in the religion of the Hindus of the Dekkan.* By the REV. J. STEVENSON, D.D.

(Read 21st November, 1840.)

THAT Buddhism prevailed extensively in the Dekkan during the period of its ascendancy in India, is evident, from the imperishable monuments of that religion existing in the celebrated caves of Ellora (Verul), Kárlí, Ajanta, and Salsette (Sáshte). It would give, however, but a very imperfect and limited idea of the influence and extensive ramifications of Buddhism, to suppose that its monuments are confined to places of such celebrity. To speak only of the neighbourhood of Bombay, small caves having inscriptions in the ancient cave character are to be found in the hills near Nasik and Junír. Even at the comparatively unimportant villages of Máhar on the Bánkot river, and Kher, twelve miles distant, there are excavations of a similar kind, which I myself have visited. Some of them still contain a *dágoba*, and others fragments of stone, belonging to a previously existing place of that kind; and I have no doubt that many similar caves exist throughout the country, though they never have been brought to public notice. When, then, stations of Buddhist priests existed in such places as these, to say the least, their influence in the country around must have been considerable. At the commencement of the controversy between the rival sects, the Buddhists seem to have had the decided superiority. Buddhism is eminently a religion of reason: it rejects all that reason does not comprehend; and makes its constant appeal to (Buddhi) the human intellect, as the supreme judge in religious things. Brahmanism, on the contrary, is a religion of tradition. The Vedas and the Rishis have handed down certain things as

sacred and acceptable to the Deity, and for that reason the Brahman practises them. Thus, for example, the Buddhist declares animal sacrifice criminal, because it is attended with the slaughter of an innocent creature; and the only evasion to which the Brahman can have recourse, in order to defend his ancestors from cruelty, is to maintain that the Rishis restored again to life all the animals they killed in performing their sacrifices. The Buddhist of the present day may not be able to disprove this assertion; but it is plain from the edicts on the pillars at Delhi, Allahabad, &c., lately decyphered by Mr. James Prinsep, that no such miracle was ever, in former days, believed to have taken place; and that the grand advantage that the Buddhists had over their opponents, consisted in their mercy to all living creatures, as contrasted with the bloody rites of the Brahmans.

Those higher views which, as Christians, we are taught to entertain of the nature of the rite of sacrifice, that it was intended to impress men's minds with a sense of their guilt in violating the divine commandments, and to lead them to welcome the atonement to be made by the Author and Finisher of our faith, were unknown to the defenders of Hinduism. To regain, therefore, the influence they had lost at the first, the Brahmans were compelled to modify their system, and cast into the shade, or abolish altogether, those parts of their religion least defensible on the ground of reason. Five of these objectionable things are particularly mentioned in one of their own books, the Achára Mayukha, ascribed to Sankara Achárya. They are: 1. The Agni-hotra, *i. e.* the oblation to fire; 2. The killing of cows for sacrifice; 3. Sanyása, *i. e.* self-torturing austerities; 4. The use of flesh in the sacrificial feasts to the manes of their ancestors; 5. The marrying the widow of a deceased brother. All these things are declared prohibited in the Kali-yuga, by the following Sloka.

अग्निहोत्रं गवाक्षं सन्यासं प्लवचैर्नृकं ।

देवयजुसुतोत्पत्तिः क्लृप्ती पंच विवर्जयेत् ॥

It is, however, further added, that Náreda, the author of the prohibition, and the Momus of the Brahmanical Pantheon, was so far won by the intreaties of the Brahmans, as to restore to them the Agni-hotra and Sanyása, while the other three still continued under his interdict.

The objection to the Agni-hotra seems to have been the animal oblations made to fire. Thus, for example, at the Somayága, one of the greatest of all the ceremonies performed in honour of that

element, the caul of a slain ram forms a part of the offering, and the Bhāshya of the Sāma Veda expressly says, that "at each of the three daily sacrifices an animal is to be slain." **वीरि**

**हवनानि यन्नुत्तुष्यः**<sup>1</sup> How objectionable such a rite must have been in the eyes of the ancient Buddhists, may be conjectured from the ridiculous light in which it is put in the Abhangs of Tuka Rama, a Hindu sage, who flourished in the Dekkan about three hundred years ago. His verses are to the following effect :—

" Beat to death the ram when muzzled,  
And offer the Soma with sacred song."  
So they say, but still I'm puzzled,  
And half suspect such worship wrong.  
Are rites like these the Deity worthy,  
That turn religion topsy-turvy ?

The Sanyāsa, also, as connected with self-torturing rites, was at the first prohibited. In fact, I conjecture the whole of this prohibition to have been of Buddhist origin ; and that while, during the Buddhistical ascendancy, other parts of Brahmanism were allowed to be practised, these were absolutely forbidden. Indeed, the other parts of Hinduism are mentioned by the Buddhists with respect, and in some of their books they speak as if they believed in the existence and power of Indra, called by them Sakko (S. Sakra), and other Brahmanical gods. However this may be, with the Brahmanical ascendancy the Agni-hotra and Sanyāsa assumed their former importance in the Hindu system ; but the sacrificing of cows, and eating flesh, in performing the rites to the *manes*, could no longer maintain their ground. The edicts<sup>a</sup> of Asoko, issuing from his royal residence on the Ganges, and set up in various places from Girnar in Gujarat, to Cuttack in Orissa, strictly forbidding the putting to death of any animal, had sunk too deep into the minds of men to permit these bloody rites to resume the same place that they had done before in the Brahmanical system. The Hindus, indeed, of the present day, will hardly admit that the cow was ever sacrificed by their ancestors. But the works handed down to us by their ancient writers, prove this point to demonstration.

There is a story, not far from the commencement of the Matsya Purāna, detailing at great length the history of seven brothers, who on their father's death, threw themselves on the hospitality of Garga Rishi, and who, in lack of other materials, killed and ate their

<sup>1</sup> Part 1. Prapāthaka 1. Das. vi. 2.

<sup>a</sup> Issued in the twenty-seventh year of his reign ; and as he ascended the throne, B.C. 325, the date of the edicts is B.C. 298.—Note by the Editor.

patron's cow, as a sacrifice to the manes of their sire. For this act of piety on their part, they were so favoured as to pass to the highest state of bliss,—final emancipation, after being born other five times; and after every succeeding birth, to recollect all the transactions of their lives in their past transmigrations. It is declared in the same Purána, that the feast to the manes of ancestors should consist of thirteen kinds of flesh. Among these are enumerated mutton, venison, &c., and several kinds of fowl and fish; but in my copy the enumeration amounted only to eleven, and a blank was left. Did this blank imply that the Englishman's favourite dish was wanting, and that the hungry manes were looking out for a good round of beef? In the Sutras annexed to the Rig-Veda, the first hymn of the third Adhyáya of the first Astaka is ordered to be chanted at the sacrifice of a cow, गोसूचे.

True it is that among the ancient Rishis there were not wanting men who spoke slightly of animal sacrifice, when they could not expressly condemn it. Thus Godha, in the Sáma Veda, says, "O ye gods, we use no sacrificial stake, we slay no victim, we worship entirely by the repetition of sacred verses<sup>1</sup>." But the sentiment of Angirasa, that "He who offers animal sacrifice is like heaven itself, for conferring happiness<sup>2</sup>," seems decidedly to have prevailed among the Brahmans till after the origin of Buddhism. Brahmanism, as first established, or afterwards revived, in the Maratha country, is universally by the natives traced up to Sankara Achárya, whom they deem an avatar of Siva, raised up to put down the Buddhists. He is generally supposed to have flourished at Kolapur at the commencement of the ninth century of the Christian era. Previously to that period, then, it is admitted that Buddhism generally prevailed throughout the country; his constitutions are always appealed to as directing modern practice. To him, then, we are naturally led as the person who introduced the modifications into Brahmanism which we have mentioned, and which were rendered necessary, from the long prevalence of the other religion. Sankara Achárya thus was an eclectic, who formed a new system, in which he endeavoured to combine the excellencies of other religions with the Brahmanical. Genuine Buddhism, it is true, now no longer exists in Western and Central India; but the sect of the Jains, who are but a branch derived from the parent stem, or themselves the stem from which Buddhism sprung, are numerous, and maintain the chief peculiarities of the system, both in doctrine and practice, denying the existence of

<sup>1</sup> Part I. Prapáthaka II. Das. ix. 2.

<sup>2</sup> Rik. Mandala I. Anuvaka VII. Súkta I. 15.

an intelligent First Cause, adoring deified saints, having a priesthood practising celibacy, and thinking it sinful to take the life of any animal for any cause.

To my mind, however, the most singular result of the influence of Buddhism upon Brahmanism, is the transformation of two Buddhist, or more probably Jain devotees, a male and a female, into a Hindu god and goddess. Yet when it is considered that the great heresiarch himself has been conveniently transformed into an avatāra of Vishnu, sent down to propagate error on earth, and prevent men from coming to heaven in numbers to incommode the gods, we ought not to be astonished if two Buddhist saints should rise to the rank of Hindu deities. Such I conceive to be the origin of the worship of Vithoba and Rakhami at Pandharpur, and other places in the Dekkan. The reasons for this opinion are the following.

1st. The want of suitable costume in the images as originally carved, in this agreeing exactly with the images the Jains at present worship, and disagreeing with all others adored by the Hindus. The Hindu votaries of Vithoba and his wife endeavour, it is true, to identify them with Krishna and Rukmini; but the images of Krishna, and of every other Hindu god and goddess, are in the respect I have mentioned, quite different from those of Vithoba and Rakhami. The Hindus, with all their faults, (and these neither few nor light,) had always sense of propriety enough to carve their images, so as to represent the gods to the eye, arrayed in a way not to give offence to modesty. And so much does the same feeling prevail, in regard to the objects of worship at Pandharpur, that cloth is annually purchased and brought from the bazar, to furnish a dhotā and pagotā<sup>1</sup> for Vithoba, and a lugadi<sup>2</sup> for Rakhami. The same thing is done in all parts of the country where their worship is established. Rather a laughable lawsuit arose, about seven years ago, in a village near Poonah, out of the circumstance of Vithoba's requiring every year a new suit of clothes. The family of the original image-dresser having become numerous, and having separated into two different families with separate interests, it was agreed between them, that the one branch should perform the worship, and receive all the offerings, while the perquisite of the other should be the god's cast clothes, which, of course, at the end of the year should have been nearly as good as new. The cunning image-dresser, however, whenever there was a marriage or a feast, took the liberty to borrow the dress of his patron god over-night, restoring it to him

<sup>1</sup> A man's lower garment.

<sup>2</sup> A turban.

<sup>3</sup> A web of cloth covering the whole body of a female.

again early next morning, so that at the end of the year the clothes were much the worse for wear. The other party complained to the judge, who dismissed the case as not within his jurisdiction.

2nd. There is a strong party among the Brahmans, at the present day, who deny the claims of Vithoba to a place in the Hindu Pantheon, and who roundly assert that the great temple at Pandharpur, where he is principally worshipped, once belonged to the Jains, and was bought from them by a party of Brahmans, who pay quit rent to the descendants of the original possessor to this day. It is difficult to conceive how such a story should have originated, unless it be true; and supposing the Jain religion previously to have prevailed extensively, and Pandharpur to have been reckoned a place of sanctity in former times, it is easy to see how the Brahman inhabitants might still wish to maintain the credit of the place, when under their own influence, after the establishment of the Brahmanical ascendancy, and worship the Jain saints as a Hindu god and goddess.

A certain Sástrí, one of the party opposed to Vithoba, went so far during the reign of Mahadeva Ráo Peshwa, as to endeavour to move the government to interfere, and proscribe a worship sanctioned neither by Veda nor Purána. The worldly wisdom, however, of Nana Phadnis (Furnavese) came to the rescue of the god, and foiled the science and zeal of the Sástrí. He intimated to his master that it was no affair of his to oppose the claims of a god, who yearly mustered tens of thousands of devoted followers.

3rd. The festivals of Vithoba seem to have no relations to those of the Hindu god Krishna, with whom his followers wish to identify him, but on the other hand, correspond in a remarkable manner with the holy seasons of the Buddhists.

The birthday of Krishna is on a different day of the moon, and in a different month from any of the festivals of Vithoba. But the two greatest days at Pandharpur happen, the one just four days before the commencement, and the other just four days before the completion, of the Buddhist *Wasso*, or season of sacred rest, which continues from the full moon of Ashádha to that of Kartika<sup>1</sup>. To illustrate this agreement, we must refer to a strange idea that has crept in among the Hindus, that Vishnu, the Preserver of the Universe, sleeps during four months in the year, and these, too, those of the rainy season, when the grain that is to supply nourishment for man and beast is sown, and chiefly matured. It seems a most unaccountable whim even for a Hindu to set the preserving god

<sup>1</sup> Corresponding to our July and November.



asleep, when he should be all awake, to vivify the seed, and mature the fruits of the earth. It is from Buddhism alone that we can derive any consistent explanation of this anomaly.

During the Wasso, or sacred season of religious rest, the Buddhist priests employ their time in holy meditation, and thus aid to the utmost of their power the husbandman in procuring food for the support of the world. Buddha is identified with Vishnu, and sleep in the Sanskrit language is identified with the intense devotion of the sage. Hence the sleep of Vishnu the Preserver is nothing more than the devotional rest of the priest, who, by his meritorious works, sustains the universe. Whether the change from the 15th to the 11th day of the month Ashádha, was intended in an average number of years to bring the sleep of Vishnu nearer to the summer solstice, or for what other reason, I am not able to determine.

The day when the moon passes from the month Pausya to Mágha, is also kept as a great day at Pandharpur, and called the Vela new moon. Fifteen days earlier at the preceding full moon, is the anniversary of Buddha's visiting Ceylon, and the beginning of the Tibetan year. In the time of Buddha, there was a great festival on that day at Uruveláya, (Buddha Gaya in Behar). It is a well known fact that in the Dekkan all the months begin fifteen days later than they do in Hindustan; but whether this may have been the cause of a departure from the day on which the festival was originally celebrated or not, I cannot say. The minute particulars regarding these festivals I have not the means of investigating, from the want of the calendars of the Buddhist nations around us. It is the general relation of time, in the only three annual festivals celebrated at Pandharpur, with Buddhist holy seasons, to which I would direct attention.

4th. Within the precincts of the temple at Pandharpur, there is no distinction of caste. Vethál, the proper name of the god, means "He who receives the ignorant;" at least, so his votaries interpret it. This is another feature of Buddhism directly opposed to the Brahmanical religion.

While reflecting on this subject, it has occurred to me that many of the arguments I have used will apply also to Jagannátha in Orissa, and that the worship of that god, also, is derived from Buddhism. Since :—

1st. There is no distinction of caste within the holy territory of Jagannáth.

2nd. Buddhism anciently prevailed in the province of Orissa, as appears from the Buddhist remains still existing.

3rd. The Ratha Játra just immediately preceding the Sayana Ekádasi, or season of sacred rest, is probably the remains of a triumphal entry, with which the sages were welcomed on returning from their peregrinations, to hold the Wasso.

4th. The image of Jagannátha is said, and universally believed by his votaries, to contain the bones of Krishna. Now every one conversant with the opinions of the Hindus, knows that it forms no part of the Brahmanical religion to collect and adore dead men's bones. The doctrine of the Gita on this subject is, that at death the elements separate, the spirit returns to its parent spirit, the air to air, and the earth to earth. On the other hand, it is a most meritorious act among the Buddhists to collect and preserve the relics of departed saints, and the places that contain them are esteemed peculiarly holy.

Lest the idea of the Hindus symbolizing with Buddhism should appear strange to any one, I may, just before concluding, advert for a moment to the fact, that in the Dekkan, Hindus often present offerings to Mahomedan peers, and worship at their tombs. In the city and camp of Poonah, a few years ago, while I was residing there, there could not be less than two or three hundred Hindus, who annually engaged in celebrating the festival of Hassan and Hossein. They or their fathers encouraged, no doubt, by the Mullahs, had made vows to that effect, which they religiously observed. By these vows, sometimes a man binds his children for several generations after him, and the performance of that ceremony becomes a part of the family religion. Hindus make the image of a superb tomb, carry it about the streets, and cast it into the waters, just as is done by Mahomedans.

I by no means, however, think that I have exhausted this subject. Much light may be thrown upon it in other parts of India, and more may be known, I suspect, even here, than I have been able to learn. It seems to me a subject of considerable interest, and one which, if prosecuted in the different provinces of the empire, may throw much light on the history of religious opinion in India, and aid in disabusing the world of the vulgar notion, so little creditable to the genius of the Hindus, that all the millions of Hindustan have continued to think, from the earliest ages, on religious subjects, exactly as their fathers did, without any struggle to break the chains in which the Brahmanical priesthood had bound up their mental energies.

ART. II.—*Observations on the Preparation of Caoutchouc.* By  
E. SOLLY, Esq.

THE many uses to which Caoutchouc is now applied, as well as its increasing importance as an article of trade, render it of peculiar interest, and more particularly so at the present time, from the circumstance that a new and abundant source of it in India has been lately pointed out. In the following observations I am anxious to draw attention to some facts which, though perhaps known to a few who have examined the subject with great attention, are generally unknown or overlooked.

Notwithstanding the numerous applications to which caoutchouc has been put, and the great degree of ingenuity which is displayed in the machinery by which it is rendered useful, comparatively but little attention has been paid to the mode in which it is prepared; as if this had not very considerable influence on the quality and strength of the caoutchouc. The manner in which it is usually obtained is by drawing off the sap from the trees which yield it, and allowing it to dry by exposure to the air. This process is varied in some degree in different countries, but the principle is the same in all. The caoutchouc which is brought over in the form of bottles, and which is that best fitted for manufacturing purposes, is made by covering a mould of clay with a thin layer of the sap, and as soon as that is dry, adding another layer of sap; by repeating this a sufficient number of times, the bottle acquires the requisite degree of thickness, the clay moulds are then broken, and the fragments shaken out. The thicker bottles of course consist of many layers, and in cutting them across, the separate layers may be very easily perceived, each being separated from the next by a very fine line of a different colour to the mass of the caoutchouc, and upon soaking one of these bottles in boiling water, it is frequently easy to separate the different layers composing it one from another. The larger and more solid masses of caoutchouc, which come from South America, &c., are prepared with less care, and are of a very confused texture, containing, besides large quantities of impurities of a mechanical nature, many different lines, holes, and cavities of various forms and sizes.

As the sap of all trees which yield caoutchouc contains a considerable quantity of other substances in solution, it is evident that

by the process above described, the caoutchouc obtained must be, to a considerable extent, contaminated with impurities; and I believe proportionably deteriorated in quality. In the bottles this would have comparatively but little effect on the strength of the caoutchouc, but when pieces of any thickness are made, it must be evident that, as the caoutchouc dries, a considerable portion of these soluble matters must be inclosed in the substance of the caoutchouc, and they are, to a considerable extent, collected in the cavities which I have beforementioned. When a piece of fresh or recently imported caoutchouc is cut across, it is very common to find these cavities filled with a dark brown liquid; this is a strong solution of the impurities in question. On cutting across a piece of the new caoutchouc from Assam, of about one-fourth of an inch in thickness, I found cavities nearly equal in diameter to half the thickness of the whole piece which were full of this brown fluid. When caoutchouc is kept some time, the water in these cavities evaporates very slowly, and the caoutchouc becomes much stronger; but though the water is thus dissipated, the soluble matters which were previously held in solution are left, in a solid form, lining the interior of the cavities. On strongly pressing a piece of this porous caoutchouc so as to bring the sides of the cavities into complete contact, I have always found great difficulty in making them adhere together at all, and even when they did adhere, it was very feebly and they separated with the least force. The cause of this evidently is, that the lining of impurities prevents any adhesion taking place.

I have already stated that it is easy to separate the layers composing a bottle one from another. This may at first appear remarkable when we consider the great ease with which two pieces of caoutchouc, having clean surfaces, unite when they are pressed together; so perfect is the junction thus formed, that, when once united, the piece will tear anywhere quite as easily as at the joint. Indeed, pieces of new caoutchouc having clean surfaces, frequently unite merely by the pressure of their own weight, so as to become quite inseparable, and so perfect is this union, that upon it some of the most important and useful applications are founded. The process for cutting the bottles into thread for the manufacture of elastic fabrics, for which a series of most beautiful machinery is employed by the London Caoutchouc Company, would be of far less value if it were not for this property, and the facility with which

the work-people join the ends of two pieces together; and the strength of the joint so made is a curious and highly interesting example of this adhesive power. It may, therefore, appear surprising that there should exist so little adhesion between the layers forming the bottles; but when the mode of preparation is taken into account, it is evident that the soluble contents of the sap must be collected into a very thin film between each layer of caoutchouc, and this will fully account for their want of perfect adhesion.

I do not know to what extent the formation of this film affects the manufacture of the bottles, but it is most probable that it has considerable influence, particularly in the drying of the separate layers of sap, as it must considerably lengthen the time occupied by that process. It is probably to save this loss of time, rather than to increase the weight of the bottles, that the native manufacturers sometimes roll the bottles in sand between each successive layer, as, by so doing, they would be enabled to complete the bottles in a much shorter space of time, though the value of the caoutchouc would be of course destroyed.

Mr. Howisson, in his account of the caoutchouc of the *Urceola*, describes the sap of that tree as containing a peculiar substance, which, when he endeavoured to make bottles with the sap, formed a thin film upon the outside of each layer as soon as it had become dry; and which he found interfered very much with the application of a new layer, causing the sap to run and divide like water upon wax, and he accordingly supposed the substance to be of an oily nature. He however found that, by washing the newly-formed layer with soap and water, this substance was removed, and it was then easy to apply a fresh portion of sap.

As in these bottles the lines of imperfect adhesion all run in one direction, and are parallel with each other, they weaken the caoutchouc far less than if it were otherwise; but notwithstanding this, I think there can be no doubt that it would be much stronger without these separations.

Having endeavoured to show that these impurities must have considerable influence on the strength, and consequent value, of the caoutchouc, I shall detail some experiments which I have made, with a view to ascertain how far it was possible to remove these objectionable matters. From the nature of the substances in question, there seemed little hope of being able to remove them when once the caoutchouc had become incorporated into a solid mass; I

therefore endeavoured to deprive the sap of the impurities which it contained. In order to do this, I mixed the sap with about three times its bulk of water, and after well agitating them together, left the mixture at rest for some hours; at the end of that time, the mixture had separated into two parts, the uppermost being the sap, which floated on the surface of the water like cream; in appearance it was hardly at all, but in properties it was very considerably altered, the water having separated almost all the soluble impurities, and in consequence acquired a slight brown tinge. When thus purified, it has most of the properties of the crude sap, but it has less tendency to separate the caoutchouc which it contains in the solid form; and Mr. Faraday, who I find has also employed this process for purifying the sap, says, that when thus prepared it may be kept without undergoing any change for a long period of time. When a portion of caoutchouc, obtained from the unaltered sap, was submitted to pressure, I did not find that its porosity was diminished, and on extending it, those parts which contained many cavities being weak, soon gave way, and the piece broke. The caoutchouc obtained from the washed sap, though at first as porous as the other, became denser by pressure, and the sides of the cavities adhered together, and seemed stronger than that obtained from the unwashed sap. I mention these experiments with diffidence, because I had not a sufficient supply of sap to make the experiments on a fair scale, and because there may be circumstances with which I am unacquainted, and which might entirely preclude the application of a similar process on a large scale. Numerous attempts have been made to import into this country the sap of caoutchouc-trees in an unaltered state, (as it exists in a state of very fine division,) but hitherto they have almost all failed, as the sap, when it arrives in this country, is usually found to have undergone a considerable change, the caoutchouc having coagulated or separated in a solid form. From experiments made with the fresh sap, and also on portions from different countries which have spontaneously coagulated, the conclusion presents itself that the coagulation is occasioned entirely by changes in the composition of the other substances with which the caoutchouc is accompanied. When the sap coagulates spontaneously, the action is not a slow one, like crystallization, but evidently takes place with considerable rapidity, as the solid mass is usually very porous, and full of cavities. Indeed, it would be difficult to account for the spontaneous coagulation of the sap in any other manner, as

caoutchouc is one of the most unchangeable and fixed substances known, whilst the substances with which it is associated are changeable, and easily undergo decomposition.

From these circumstances, it seems very plausible to suppose that, if the sap were purified by this process of washing, it would be a far more unchangeable substance than it is in its unaltered state, and that it might be imported with a considerable chance of success into this country.

In conclusion I would suggest, as an experiment well worthy of being tried on a large scale, the practical applicability of the process of washing the sap; for though the additional strength which might be acquired by the caoutchouc might not be such as to render it worth while to wash the sap for the purpose of forming it in India into useful shapes for the English manufacturers, yet in facilitating the importation of the sap itself, it is probable that its adoption would be attended with complete success.

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ART. III.—*Account of the Wáralis and Kátodís,—two of the Forest Tribes of the northern Konkan.* By JOHN WILSON, D.D., *President of the Bombay Branch of the Royal Asiatic Society.*

(Read 17th April, 1841.)

THAT India is not the cradle of the Brahmanical faith, may be a proposition startling to many who are not acquainted with its ancient literature. To the orientalist of the humblest pretension, however, it needs no proof. The predecessors of the Brahmans, it is admitted by all who have considered their records and traditions, were first associated together as a religious fraternity in a country beyond the Indus, or exterior to the Himálaya mountains. Our greatest men are divided in their opinions as to the country from which they came. Sir William Jones brings them from Iran, or Central Asia; Adelung from a similar locality; Klaproth, from the Caucasian mountains; Kennedy, from the plains of the Euphrates; and Schlegel, from the borders of the Caspian Sea. The theories of these scholars are all plausibly supported; and they generally agree in this respect, that they take it for granted, that the Brahmans in ancient times were found in the territories immediately north of India. The occurrence of about three hundred Sanskrit words in the Persian language<sup>1</sup>, the Hindú notion of the northern position of the residences of the gods, the situation of the Manu-sarovar, or Lake of Intelligence, still a celebrated place of religious pilgrimage, and the source of the river Brahmaputra, whose etymological meaning, the "son of Brahma," is similar to that of the usual designation of the priestly class to whom I refer, are in favour of this agreement. After the Brahmans entered India, they continued for a considerable time to inhabit its northern territories. The "Holy Land" of Manu, which is of no great extent, lies between the Drishadwatí and Saraswatí<sup>2</sup>. On the banks of the latter river, according to some authorities, lived Vyása, the reputed compiler of the Vedas and Puránas<sup>3</sup>. In the north are to be found the shrines, junctions of rivers, and lakes, esteemed most sacred by the Hindús in all ages. In the same division of the country, the solar and lunar races of kings, the most distinguished in Indian tradi-

<sup>1</sup> See KENNEDY on the *Affinity of Languages*.

<sup>2</sup> Manu ii. 17.

<sup>3</sup> See H. H. WILSON's preface to his *Translation of the Vishnu Purána*.



tions, ruled and reigned. The Sanskrit language, which the Brahmans carried along with themselves, is more copiously mixed and closely associated with the languages of the north, than with those of the south of the peninsula. The different tribes of Brahmans claim rank according to their connexion with the north. Of the actual spread of Brahmanism to the southward, some indistinct notices are given in the Rámáyana, the work next in point of antiquity to the Vedas, the Mahábhárata, and some of the Puránas. Ráma, who is represented as an incarnation of Vishnu, was undoubtedly a historical personage; and the accounts which are given of his march to Lanká, or Ceylon, clearly prove that he was opposed by a people who belonged to a faith different from that to which he lent his powerful aid to support and establish. As he proceeded on his career of victory, he formed many alliances with the tribes which he subdued, and who co-operated with his endeavours to overcome the Rákshasas, or devils, alias barbarians, who were the objects of his hate. Several castes of the present day ascribe some of their peculiar privileges to his munificence, as the Bhatelá Brahmans, of the Ativísí<sup>1</sup>, who, though only agriculturists, are permitted to read the Vedas and perform sacrifices in their own behalf, though not in the behalf of others. Ráma encountered great difficulties in the forests, especially in that of Dandak, bordering on the Nirmadá; and it is in the forests, and on the mountains of India, that the tribes who have most successfully opposed Brahmanism are principally to be found. The legend of the creation of the Konkan, or the region intermediate between the Western Ocean and the Sahyádrí range of gháts, and the subjection of a great part of its territory to newly created Brahmans, by Parasuráma, another incarnation, is nothing more nor less than a faint tradition of the first triumph of Hinduism, over other forms of superstition prevalent in the province.

The Brahmanical religion, which was thus gradually propagated, is now dominant in India. It is not, however, and it has never been, universal in its sway. Buddhism, which claims alliance with it in its origin, but which differs greatly from it in its essential principles, was, for several centuries at least, more than its rival<sup>2</sup>.

<sup>1</sup> The country intermediate between the Taptí and the Daman-Gangá.

<sup>2</sup> This is evident from the numerous cave-temples, and other monuments of the Bauddhas, and the edicts of Asoka, and other princes, the patrons of their faith, which are found throughout India. It is a curious fact, that a few months after I put into the hands of the late James Prinsep, Esq., the fac-simile of the Bauddhist inscriptions of Girnár, procured for me after my visit to that celebrated mountain

Many tribes, inhabiting principally the forests and mountains of the country, have either not succumbed to its authority, or refrained from receiving its doctrines and rites, without great concessions being made to their original superstitions and observances. The situation of these tribes, forming part as they do of the great family of man, would in any circumstances be worthy of investigation; for few will dissent from the opinion of the eloquent and philosophic Hall, that "whatever tends to render our acquaintance with any portion of our species more accurate and profound, is an accession to the most valuable part of our knowledge." There are peculiar circumstances, however, which recommend them to attention. On several occasions they have made irruptions into the more peaceable portions of the British and native territory, and have not retreated to their wilds without inflicting extensive injury on life and property, and in some instances, as in the case of the Bhíls and "Coles," without requiring the intervention of an armed force. They have not yet been permitted, in any considerable degree, to share in the bounty which the benevolence of our country has furnished for the instruction of the people of this land. Much, in many districts, remains to be done to inspire them with the love of a productive and self-rewarding industry. The question of permitting, under a temporary contract, their emigration to the colonies, till lately cultivated by the labour of the slave, or protecting them from every enticement to form engagements which they can but little understand, and which are to be implemented in a foreign land, is at present pending before the British Parliament.

by my friend Captain Lang, the exact counterpart of what is most important in them, though in a less perfect state, was found by Lieutenant Kittoe so far distant as Dhaulf in Kattak.

"The opinions of the learned," I have said in another place, "are divided as to the superior antiquity of the Buddhist and Brahmanical systems. The extensive geographical distribution of the Bauddhas, giving to Hindúism an almost insular situation, has formed the most plausible plea on their behalf; but it is entirely destroyed when it is borne in mind, that the Singhalese, Burmese, Chinese, Tibetans, &c., as Mr. Hodgson remarks, point to India as the father-land of their creed, have all their ancient books in the language of that country, and set forth the founders of their faith merely as reformers, or improvers, of Brahmanism. How far Hindúism, in its most ancient forms, may have countenanced them in their speculations and practices, it is difficult to determine. In their controversial works, they point to numerous precedents and authorities to be found in the Hindú Sástras. They are decided fatalists in their notions, teaching the eternity both of matter and spirit, while the Hindús, as spiritual pantheists, deny the reality of matter. From their first appearance as sectaries, they have had a great aversion to animal sacrifices, and a love of the monastic life."—*Memoir of Mrs. Wilson.*

To some of these tribes, in the territories included in, or adjoining to, the Bombay Presidency, my attention has at different times been particularly directed; and as a small contribution to a general exposition of their state, I shall now give a short account of two of them, the Wáralís and Kátodís, who inhabit the jungles of the Northern Konkan. Of the first, no description, as far as I am aware, has yet been given by any of our countrymen. Of the second, a brief but interesting notice has been published by Major A. Mackintosh. For the sake of convenience, I shall give my notes much in the form of a personal narrative. The conferences which, in conjunction with the companion who is afterwards mentioned, I held on the subject of their religious sentiments and practices, were in no small degree curious and interesting to our own minds.

### THE WÁRALÍS.

The first time that I came into contact with any persons belonging to this tribe, was the 22nd December, 1834. "When Dr. Smyttan and I," as I noted on the occasion, "went out to view the village [of Umargaum], we found three or four Wáralís, who had come down from the jungles with the view of disposing of bamboos which they had cut, and procuring some little necessaries which they required. Their hair was black and lank. Their bodies were oiled, and altogether they had a very wild appearance. They spoke Maráthí, and seemed to be highly amused at having a European to speak with them. On questioning them, we found that they have no connexion either with the Brahman or the Hindú religion; that they have priests of their own, and very few religious rites of any kind; and that these rites principally refer to marriages and deaths. They move about in the jungles according to their wants, many of their villages being merely temporary. Their condition is well worthy of being inquired into. In an old book of travels, I find their tribe represented as much addicted to thieving. In the Puránas, they are spoken of as the *Kálo prajá*, in contradistinction to the common Hindús, who are denominated the *Subhrá prajá*. There are other tribes in the jungles whose state is similar to theirs, and should be investigated. The wildness of their country, and the difficulties and dangers of moving in it, are obstacles in the way of research. The knowledge of them, however, might lead to important consequences." From this time, I became exceedingly desirous of visiting the Wáralís in their native forests; and my friend and fellow-labourer, the Rev. James Mitchell of Poona, having entered into my views, we left Bombay on the 9th of January, 1839,

for the express purpose of particularly inquiring into the circumstances of this strange people, and proclaiming to them the glorious tidings of salvation through the Son of God. It was not till the 21st of the month, that we came in contact with any of their number. Mr. Mitchell, who found a few of them sitting round a fire in Umargaum, had a conversation with two of them who were on a visit to the town. "They were," he wrote, "the most ignorant persons I have ever met with. They did not know what sin is till I explained it. They answered all my questions with the exclamation, 'How is it possible for us to know such matters,' and laughed most immoderately at my inquiries, both as to their novelty, and the idea of my expecting them to know anything about such matters." Two days afterwards, at a neighbouring village, I sat down beside a small company, with the view of examining them at length respecting their tenets and habits. Amongst other questions, I asked them if they expected to go to God after death. "How can we get to God after death?" said they, "*men* even banish us from their abodes; how will *God* allow us to approach him?" This reply affected me more than I can express. It marked the sense which they had of their own degradation; and it revealed the error of their conceptions of the divine nature. It showed that they thought God to be somewhat *greater* than man, but only greater in pride and wickedness; and that they imagined that to him they were not responsible. The individuals to whom I have now referred being in the habit of occasionally visiting the coast, and holding intercourse with others more civilized than themselves, may be considered as not altogether fair representatives of the body in general.

When we reached the Portuguese settlement of Daman, we were able to form our plans for continuing our journey through the dense and gloomy forests in which the Wáralís reside. We directed our course to the eastward. Our second march brought us to Rakhólí, in which many of them reside. We succeeded in getting them assembled together; and, with the help of my companion, I proceeded to examine them at great length, and to record verbatim the replies which they gave to our inquiries. It may be curious for some to have a few extracts from the catechism which was the result of our interviews. The following is its commencement.

What are your names? Láshis, Kákawá, Shamjí, Gopají, Badagá, Hindio, Rupají, Dival, Devají, Holo<sup>1</sup>.

What were the names of your fathers? Bhiku, Sukho, Samo,

<sup>1</sup> O is a Gujaráthí termination of a masculine noun, and á, a Maráthí. The village of Rakhólí is intermediate between Gujarat and Maháráshtra.

Dhanjí, Dhakio, Zanío. [Three persons did not know the names of their fathers.]

What are the names of your wives? We never mention the names of our wives.

But were you ever asked before by a *Sahab*? Never, never. Their names are Harkhu, Thakalí, Sonái (the lady of the gold), Kaluná, Rupái (the lady of the silver). [No individual mentioned the name of his own wife; each man gave that of his neighbour.]

Did the Brahmans marry you? No, we are our own Brahmans, our own priests. Our women marry us, by singing over a cup of *dárá* (spirits), the bridegroom drinking first, the bride second, and and afterwards the whole company.

At what age do you marry? Girls from twelve years and upwards, and boys from sixteen years and upwards.

Do you choose wives for yourselves? We look out for a woman to our own liking, and then ask our parents and friends to conclude the bargain for us.

How much do you pay for a wife? Nine rupees and a half.

Why don't you give ten? This is not our custom.

Do you ever pay a smaller sum for a wife than nine rupees and a half? Sometimes, we conclude the bargain for eight rupees. In your country [the Company's territories; we were then in the Havoli parganá of the Portuguese] wives are cheap.

Do any of you keep more wives than one? Re! Re! We can scarcely feed one; why should we think of more?

Do you consult any book before giving names to your children? No, we give names from our own minds. The father chooses the name.

When do you give names to your children? When they are able to understand them.

How do you address your children before they get their names? We call them Dádu, Bálu (Sir), and Báí (Ma'am!)

When do you first give clothes to your children? To boys when they are twelve years old.

How do you treat your children when they disobey your commands? We scold them.

Do you never whip your children? What! strike our own offspring? We never strike them.

When your wives disobey your commands, how do you treat them? We give them chastisement less or more. How could we manage them without striking them?

But don't they get angry with you when you beat them? They get angry of course.

Do you give any instructions to your children? Yes, we say to them, Don't be idle, Work in the fields, Cut sticks, Collect cow-dung, Sweep the house, Bring water, Tie up the cows.

Do you give them no more instructions than these? What more do they need?

Don't you teach them to read or write? No Wáralís can either read or write.

Do you give them any instructions about God? Why should we speak about God to them?

What God do you worship? We worship Wághíá (the lord of tigers).

Has he any form? He is a shapeless stone, smeared with red-lead, and ghí (clarified butter).

How do you worship him? We give him chickens and goats, break cocoa-nuts on his head, and pour oil on him.

What does your god give to you? He preserves us from tigers, gives us good crops, and keeps disease from us.

But how can a stone do all this for you? There is something besides the stone at the place where it is fixed.

What is that thing? We don't know; we do as our forefathers showed us.

Who inflicts pain upon you? Wághíá, when we don't worship him.

Does he ever enter your bodies? Yes, he seizes us by the throat like a cat, he sticks to our bodies.

Do you find pleasure in his visits? Truly, we do.

Do you ever scold Wághíá? To be sure, we do. We say, You fellow, we have given you a chicken, a goat, and yet you strike us! What more do you want?

Do you never beat Wághíá? Never.

Whether do you bury or burn your dead? We burn them.

What interval occurs between the death and the burning? We allow no interval when the death occurs during the day. When it occurs during the night, we keep the body outside till the break of day.

Why are you so hasty in the disposal of your dead? Why should we keep a corpse beside us?

Where does the soul go after death? How can we answer that question?

When a man dies in sin, whither does he go? How can we answer that question?

Does he go to a good place, or a bad place? We cannot tell.

Does he go to heaven or to hell? He goes to hell.

What kind of a place is hell? It is a bad place; there is suffering in it.

Who are in hell? We don't know what kind of a *town* it is.

Where do good people go after death? They go to Bhagaván (the Self-existent).

Don't they go to Wághiá? No, he lives in the jungles.

Where is Bhagaván? We don't know where he is, and where he is not.

Does Bhagaván do anything for you? How can God do any thing for us? He has neither *deha* (body) nor *daya* (mercy), that is to say, he is destitute of qualities.

Before I proceed farther, I must make a few remarks on the object of some of our questions and the replies which we received. Our inquiries relative to the names of the Wáralís were instituted with the purpose of ascertaining whether or not they conform to those commonly current among the Hindús. From the list which I have given, as well as from many others in my possession, it is clear that they have not been bestowed in accordance with the institutes of Brahmanism. According to these authorities, names should be given to children about the twelfth day after birth; they should be selected by the Brahman astrologer, after consulting the horoscope and almanac; their first term should be that of a god, for there is the merit of prayer in pronouncing such a term, even when calling to a person in common discourse; they should not be unmeaning and absurd; they should not consist of an uneven number of syllables; and they should be communicated with various rites and ceremonies, which need not be mentioned. It is in the celebration of marriages, that the Brahmans are most in requisition among the Hindús; and the fact that they are entirely discarded by the Wáralís on these occasions, is particularly to be noted. The family government brought to our notice corresponds with that of many of the lower orders in this country, and, to a good extent, with that of the uncivilized aborigines of North America. Wághiá, the object of worship, is evidently viewed as a malevolent being, who may be either frightened, or cajoled, according to the convenience of his devotees. The abusive treatment which he sometimes receives, is not peculiar to himself, for even the Hindú Sástra sanctions the resort to *virodha-bhakti*, or the worship of opposition, and presents us with many examples of its signal success both amongst gods and men! The notions entertained of the future state

are faint to a degree which we seldom see exemplified among the Hindús; and there is scarcely evinced any feeling of responsibility. Many persons, after receiving the first answers which we obtained respecting Wághiá, would have set down the Wáralís as having no belief in a Supreme God. Incidentally, however, they evince, that though nearly entirely ignorant of his character, they admit his existence.

When we had concluded our examination, we told our friends that as they had said much to *us*, we had much to say to *them*; and we both preached to them and our other auditors at great length. Some philosophers would have said to us, when we commenced our address, you may as well harangue the trees and bushes around you, as seek to communicate religious knowledge to these children of ignorance, before they are disciplined and trained by regular education. Had they been present with us, however, they would have seen the fallacy of the judgement on which they rest. We found access to their understandings and to their hearts, studying of course the greatest simplicity of speech, and illustrating our statements by numerous allusions to their own economy. They listened to us with attention; they acknowledged the charge of guilt which we brought against them, when we expounded the precepts of the law of God; they confessed that they had acted both unreasonably and impiously in worshipping a devil instead of God; they declared that they would henceforth call on the name of Jehovah; they expressed the interest which they felt, when we showed them how "God so loved the world as to give his only begotten Son, that whosoever believeth in him should not perish, but have everlasting life." A subsequent catechising proved that they remembered much of our discourse. Thus, we see that there is an essential adaptation between the mind of man, and the word of God, formed in the all-perfect wisdom of their Author. In saying this, I am not forgetful of the incalculable advantages of education, and not undesirous that as many as possible should have line upon line, precept upon precept, here a little and there a little.

After leaving Rakhólí, we visited a considerable number of other *hutteries* belonging to the Wáralís, and situated in the Company's territories. The principal of them were those of Kudád, Parjís, Dhabáris, Phalsuní, Kinhaulí, Thalásarí, and Pimpurí. As we took short marches, our arrival was generally expected; and persons from different villages voluntarily assembled to meet us, and to listen to our instructions. At Dhabáris, we found the old chief of the tribe, named Chandráo, with about thirty-five villagers, who, to



do him honour, were content for a day to be reckoned his followers; and to arm themselves with bows, and swords, and matchlocks. Our conversation with this party elicited greater intelligence than we had hitherto witnessed; and we thought the principal man was somewhat unwilling to be considered entirely excluded from the service of the Brahmans. Some of them, he said, have occasionally visited him, and after repeating some *chatar-matar*, have got a prize of a couple of silverlings for their trouble. It was, perhaps, from them that he had learned the doctrine, which he avowed, that the human soul is identical with the Supreme Mind. The country in which we were travelling, he represented as the everlasting inheritance of the Wáralís; but he could not define the bounds of their habitations. As the result of all our inquiry, I would state generally, that, omitting a belt of six or seven miles of country on the coast, they are formed by a line running east of Daman to Jawár, and south-east from Jawár to the Dánu creek. My friend Mr. Duncan Davidson, of the Civil Service, who was for several years in charge of the district in which they reside, and who has had much intercourse with them on the occasion of his making the usual revenue settlements on the coast, gives me this information respecting them:—"The boundaries of the country of the Wáralís it is difficult to specify. I am not aware how far they extend into the Surat Collectorate; but their principal locations in this Zillah, are in the Maháls forming its northern boundary, viz., Nehar, Sanján, Udwach, Báharach, Asharí, Thalásarí and Gambirgad. They are also found near the coast, but less frequently the farther south. Their total number may be about 10,000." He also adds, in reference to the land-rent of the Wáralís, the following observations, in which there are both wisdom and benevolence:—"The Wáralís inhabit the very jungly districts of the Zillah, and the system of taxation pursued in them is the *nángar-bandí*, so called from *nángar*, a plough, each of which is rated at from five to fifteen rupees per annum, partly a fixed money payment, and partly a commutation for kind, the commutation rate being annually fixed by the collector, according to prevailing *bázár* prices, just as the *fiars* are fixed in Scotland. The *nángar-bandí* system obtains in all the Maháls from Asharí round by the eastern side of the Jawár territory, southward along the Gháts to where the Kolwan Táluka joins Morbád, about twenty miles below the Tal-Ghát. It is a system which is well suited to the people, whose superstitious aversion to measurements and minute surveys it has been as yet found difficult to overcome; and if it were properly administered,

that is to say, if the quantity of land for each plough were marked out as a whole, they would become much more attached to it. As it is, if a man puts an additional plough to increase its productiveness, on the same land which last year he scratched with only one, he has to pay for two. The implements of his industry, and his stock, are thus at once taxed double; the 'taille' system, in fact, is here carried as far as ever it was in France, and consequently the depressed state of agriculture and the cultivators is easily to be accounted for. It would not be necessary for Government to be at the expense of a minute survey for such a country, indeed the country is not worth it; but it would require neither great expense, nor much time to settle the number of ploughs for each village, and to register the boundaries of the land assigned to each plough, so that the cultivator within them might do as he pleased." It is the richness of the soil, I would remark, which in many places retards its cultivation. The vegetation in the forests is so luxuriant, that the inhabitants fail to subdue it.

I need not enter into farther details connected with our movements among the Wáralís; but I shall content myself by giving the sum of such of my notes as I have not already used in this Paper.

The Wáralís are more slender in their form than the common agriculturists in the Maráthá country, and they are somewhat darker in their complexion. They seldom cut either the hair of their heads or beards; and on ordinary occasions they are but slightly clothed. Their huts are sometimes quadrangular, and sometimes circular; and on the whole are very convenient, being formed by bamboos and bramble, twisted into a framework of wood, and so thickly covered with dried grass as to be impervious both to heat and rain. They do not rear many cattle; but they have a superfluity of domestic fowls. The grains which they raise are principally *nágali* (*Eleucina colocarus*), *túr*, or pigeon pea, *udid* (*Phaseolus radiatus*), *wál* (*Lablab vulgaris*), and, to a small extent, *bhát*, or rice. The wood which they fell near the banks of some of the principal streams, brings them some profit; and altogether they appear to be in comfortable circumstances. It is probable from their consciousness of this fact, and their desire to preserve themselves from the intrusion of other tribes, that many of them are not unwilling to be esteemed sorcerers. They are immoderately addicted to the use of tobacco, which they purchase on the coast; and almost every man amongst them carries the materials for striking a light for smoking whenever he may please, which are generally accommodated in a hollow cocoa-nut. They are unfortunately fond of ardent spirits;

and the Parsís have many shops in the wilderness, placed under Hindú servants, for their accommodation. The scarcity of money is no obstacle to their indulgence, as liquor can be procured for grain, grass, wood, or any other article which may be at their disposal.

There are many *kúls*, or family divisions, amongst the Wáralís, such as the Rávatíá, Bantría, Bhángará (that of the chief), Bhávar, Sankar, Pileyané, Meriá, Wángad, Thakariá, Jhadavá, Karbat, Bhendár, Kondáriá, &c. The clans, indeed, are so numerous, that we are forced to come to the conclusion, that they must at one time have been a very powerful people. The population appears to be at present nearly stationary. On account of the unhealthiness of the jungles, many of the children are cut off at a very early age. No person marries in his own clan.

The Wáralí villages have not the common officers found in similar places among the Maráthás. They have, generally speaking, a head man, who is in some degree responsible to the government for their behaviour. The Wáralís are not particularly noted for crime.

We have seen what is the general system of worship among the Wáralís. Unless when calamities overtake them, they are not frequent in their visits to the images of the Wághíá, which at the best are only very rude forms of a tiger. They have an annual service for the dead, when their bhagats, or elders, repeat incantations, kindle lights, and strew flowers, at the place where the ashes of the dead have been scattered. They partially observe the two festivals of the *Shímgá*, and *Diváli*, which, are connected with the vernal and autumnal equinoxes, and which though celebrated by the Hindús in general, are often supposed to be ante-Brahmanical.

I have alluded to the readiness of the Wáralís to listen to the Gospel message, and even to declare that their customs are vain and foolish, and worthy of a complete abandonment. They are by no means so systematically, intelligently, and habitually attached to error as the common Hindús; and they are certainly, in appearance, more willing to receive the truth than the majority of the inhabitants of this country. They are, consequently, not to be overlooked in the general arrangements which may be made for the propagation of Christianity. It is amongst persons in a situation somewhat similar to their own, that much success has been experienced by some missionaries in the south of India and in Barmah.

#### THE KÁTODÍS.

2. The Kátodís receive their name from the occupation on which they are principally dependent for support, the manufacture of the

kát, or terra japonica, from the Khair tree, or *Acacia catechu*. They principally inhabit the part of the Northern Konkan which lies along the base of the Sahyádrí range, and is intermediate between the Násik and Poona roads. A few of them, I rather think, may be occasionally found on the eastern face of the Gháts on the same latitude as the district which I have now mentioned. Major Mackintosh, who has written an interesting notice of the manner in which they prepare the catechu, and of some of their peculiar habits, speaks of them as also inhabiting the jungles of the Ativísí, between the Daman Gangá and Taptí rivers. "They may be considered as nomades to a certain extent," he says, "for notwithstanding they always reside in the same country, yet they frequently change their place of residence. If we are to believe their own account, they have been settled in the Ativísí from time immemorial. They have the tradition among them, that they are the descendants of the demon Rávana, the tyrant monarch of Lanká, and the same whom the god Ráma vanquished, and whose exploits are related by the distinguished poet Valmíki." They are the most degraded body of natives with whom I am acquainted. They have not settlements of their own like the Wáralís, but they live, as outcasts, near villages inhabited by other classes of the community. They are held in great abhorrence by the common agriculturists, and particularly by the Brahmans; and their residences are wretched beyond belief. Their miserable huts are situated where all the refuse of the villages is thrown, and they have companionship with all that is impure. Looking to the position in which they are found, and to the profession of familiar intercourse with malignant spirits which they make, we can scarcely fail to associate them with the words of the Revelation,—"*without* are dogs and sorcerers." Though they receive considerable sums from the native merchants for the catechu which they prepare during the cold season, they are most improvident in their habits, and often compelled by want to feed on what is most loathsome to the human species. I have seen in their cooking vessels the coarsest vegetables and roots. The animals which they devour, they enumerated to me in the following order: "chickens, goats, deers, *rats*, *coucals*, *lizards*, *squirrels*, *blood-suckers*, the black-faced *monkey* (*Semnipithecus entellus*), doves, partridges, swine, *barbets*, and *serpents*;" and the conclusion was inevitable, that they will readily eat whatever they can digest, with the exception of the brown-faced monkey, which they declare is inhabited by a human soul! They are very depraved, as well as debased, and are particularly addicted to drunkenness. "Should

one of them happen," says Major Mackintosh, "to pass near a liquor shop, without either money or grain to barter for a dram, he will most likely pawn the only rag of cloth on his person to gratify his appetite, and go home naked, in the hope that he may redeem the pledged article on some future day. Owing to their ignorance and prodigality, their circumstances frequently become very desperate; and they have consequently to contend against misery and the many temptations to which want reduces them. They have the credit of being great robbers, stealing corn from the cultivators' fields and farm-yards, also committing robberies in the villages at night, and plundering solitary travellers during the day." Such is the dread entertained of their magical powers, that few of the natives have sufficient courage to give information to the authorities respecting their misdeeds or even atrocities. I am not aware that they frequently resort to murder.

It is now upwards of nine years since I first met with a few individuals belonging to the Kátkarí tribe. Having had occasion to address the inhabitants of a village on the continent, to the north-east of Bombay, I was struck with the attention which many of them were lending to my discourse. "When I and a native convert who was with me began to return home," I wrote at the time, "two men came running up to us on the way. They appeared to be much interested in what they had heard, and with much simplicity declared, 'Your word is true.' They belong to that curious class of the natives called Kátkarí, who principally live in the desert, and collect firewood, and prepare kát, the produce of the *Catechu mimos*a, which the natives use as an astringent, along with the betel-nut and lime. They took my companion to their huts; and when he came back, he said that they and their neighbours, about a score in number, had got him to promise that he would afterwards spend a day or two with them, to declare the Gospel."

From this time I occasionally met with some of the Kátkarís, but I had no particular intercourse with them till I undertook the journey with Mr. Mitchell, to which I have already adverted. In the notes of my companion, under date the 11th of February, I find the following entry: "In the afternoon we rode to Morbár. On the way thither, in one of the villages which we passed, at which we had stopped to inquire if any could read, that we might leave some books, we found a few families of the Kátkarís, a people to inquire into whose circumstances was a particular object of our coming in this direction. On visiting them, we found only one of the men at home, the rest having gone into the jungles, some to cut wood for

the villagers, and some to seek for roots to use for their own food. The appearance of their houses—mere huts, was wretched in the extreme ; they were very little better, as habitations, than the open air. The women and children had a half-famished appearance, and wild and savage manner. The young, on seeing us, generally took to their heels, as so many wild goats, and when we proposed to the elder people to give a few pice to each of the young who would make his appearance, it was with difficulty they could induce any number of them to come out from their hiding places, or return from their flight. Dr. Wilson gave the Patel some money to be distributed among the children. Our interest in them, which was intense, seemed to please the people. As it was getting late, we could not converse long with them, but took on the man with us to Morbár, intending to get information from him regarding the tribe ; on reaching that place, however, the people informed us, that there was a colony of them in the village ; we, therefore, rewarded the person we had brought with us, and let him return to his own village, as the Government Kárkún here promised to call some of their principal men to meet us in the morning."

Most of the subsequent day we devoted to the work of conferring with and instructing the Kátkarís of Morbár and a neighbouring village. In order to induce them to remain with us till our curiosity was satisfied, we promised that those who would continue to sit with us should each receive a day's wages, for their patience which had never in this way been formerly tried. I proposed to them the same set of queries which we had used with the Wáralís ; and made an exact record of the answers which we obtained. The result of our inquiries, not already forestalled, may be given in a small space.

After having mentioned the liberty which they take with reference to food, and the fact of their devouring the sacred monkey of India, I need hardly say that they avowed a total disconnexion with Brahmanical institutes. Their names are entirely different from those of the Hindús, and lead to the inference which has already been made in the case of the Wáralís. They represented themselves as accustomed to call on the name of the Supreme God (*Iswara*), without proffering any particular requests when engaged in his worship, except those which pertain to their immediate bodily wants and the removal of their complaints. Their notions of the divine spirituality they expressed to us by saying, that "God comes like the wind, and goes like the wind." To the divine Being they attributed the rain which waters the fields ; but whether or not he is the author of life,

they could not tell. They appeared scarcely at all conscious of their responsibility ; and they observed that their friends had died without offering up a single prayer, or manifesting the slightest anxiety about their final destiny. Of the nature of the future state, they actually knew nothing ; and they could scarcely understand our meaning, when we asked them, whether their souls have to transmigrate or not into other bodies. " We give the crows something to eat," they said, " when our relatives die. On a particular day of the year, we cry out Káva, Káva, to the memory of our fathers. We don't know, however, the reason. We do as others do." They burn their dead, and, contrary to the custom of the Hindús, the bodies of their children who survive a few days. Diseases, they remarked, walk up and down, and rest where they please. Their aged men are their priests ; but except when they use incantations for the control of devils, and celebrate marriages, and are about to commence their annual work of the preparation of the Kát, they have few ceremonies to perform. The ceremony of wedding, on which the natives in general are accustomed to lay so much stress, is with them a very simple affair, and is performed by placing, without any form of words, a chaplet of leaves or paper, first on the head of the bride, and then of the bridegroom, and afterwards besmearing them with turmeric, a popular unguent. The cost of a wife is fixed at two rupees ; but about ten times this sum is required to pay the expenses of the feasting and rioting which are the invariable consequences of the first formation of a matrimonial connexion. Children are named as soon as they are born. The family circle is anything but the abode of peace ; but women are viewed as more on a parity with men than among other classes of the Aborigines. They are greatly addicted to prognostications respecting lucky and unlucky days ; but they do not state the grounds of their conjectures. When they proceed to the jungles, for the purpose of preparing the Kát, they hold their encampments as sacred, and will allow no persons of other castes to approach them without giving previous warning. It is from the inner portion of the Khair, that, by the process of boiling and afterwards inspissating the juice and reducing it to the form of a cake, they procure the catechu. Before felling a single tree in the forest, they select, according to their families, one of the kind on which they have to operate, which they constitute a god, and which they worship by presenting a cocoa-nut, burning frankincense, applying a red pigment, and soliciting it to bless their undertaking. It is singular that they are not accustomed to partake of the catechu which they manufacture. Of the pith of the tree, however, they are very fond.

The Kátkarís whom I have seen have all belonged to two clans,—the Helam and the Pawár. Major Mackintosh mentions other two,—the Jádava and the Sindhí. It is scarcely possible at present to form an estimate of the extent of the entire population.

I do not think that it is likely that such efforts to bring the Kátkarís within the pale of Hindúism, will be made by the Brahmans and religious mendicants of this quarter, as are now to be witnessed among the Aborigines in other parts of India. Though, from sympathy with their neighbours, and a desire to share in the offerings of superstition, they pay some regard to the Holí, Diválí, and Dasahara, the three most popular festivals of the Hindús, the Kátkarís have no respect for the Hindú gods. Instead of seeking to place themselves under the restrictions of other castes, they sometimes, in revenge for supposed insults, compel strangers, by the hands of their women, whose touch communicates defilement almost irremediable, to join their own community. Christian benevolence in fact, powerful and disinterested, is required to descend to the depths of their degradation. Without entering at present on the general question of the conversion of the Aborigines, I would remark, that the Moravian system of erecting villages would probably be found most suitable to *their* circumstances. I have no doubt, that if ground were assigned to them on easy terms by the government, and if they were put in possession of the means of bringing it under cultivation, and prevented from dissipating these means by a resort to the liquor-shop, they would be content to establish themselves as a body of agriculturists. I am happy to be able to say, that the authorities here are showing for them a paternal concern, much in the way to which I have now alluded ; and that success promises to be the result. Till they are more collected together, and till schools can be formed for their special benefit, the prospect of their education must be considered remote. No other native children would sit with their youth under the same teacher, till they are reformed in their habits.

I trust that the simple narrative which I have now given, will not be altogether uninteresting to the Christian mind, even though it supplies a mere iota of the information of which the moral geography of India must be composed. The state of society in this great country, in order to be understood, must be narrowly examined in all its amplitude and modifications. Every tribe, and sect, and caste, in the land, is surrounded by moral and social barriers, which greatly impede salutary intercommunion, and which will agonize the greatest ingenuity and energy before they be surmounted



or removed. How glorious is the consideration, that the Gospel of Christ is as much suited to the circumstances of man in whatever situation he may be placed, as it is imperiously needed by him as condemned by the law of God, and placed under the tyranny of sin, the source of all his misery !

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ART. IV.—*Report read in July, 1840, at the Literary Institution of the Séchelles Islands, by Mons. Pierre Bernard, Government Physician for, and as President of, the Committee of Natural History of the said Islands.*

(Read 19th June, 1841.)

*Lodoicea Sechellarum*, of Labillardière and Commerson; *Lodoicea inermis*, of Persoon; *Cocos Maldivica*, of Gmelin; *Borassus macrocarpus*, of Sonnerat, vulgarly called "Rondier des Séchelles," the Sea Cocoa-nut of the Maldives or Séchelles: a genus of monocotyledonous plants, of the family of Palms, belonging to the class *Diacia monadelphia*, of the sexual system of Linnæus.

*Genus Lodoicea.*

Flores dioici; spatha triphylla. In masculis spadix amentaceus, squamis densè imbricatis, bifidis, multifloris; calyx monophyllus, prismaticus, trifidus, inæqualis; petala tria, linearia, androphoro inserta; amplius viginti stamina, monadelphia, filamentis basi coalitis, apice distinctis; antheræ striatæ.

In feminis, spadix geniculatus; calyx hexaphyllus, imbricatus, basi bibracteatus; corolla nulla; stigmata tria, acuta, sessilia, persistentia; drupa maxima, fibrosa, fœta nuce monospermâ, bilobatâ, rarè trilobatâ.

Species unica, *Lodoicea Sechellarum*.

*Lodoicea inermis*; frondibus maximis, pinnato-palmatis; foliolis plicatis, cucullatis, basi connatis, apice bifidis; petiolis canaliculatis, basi fissis, spadicibus simplicibus nutantibus; stipitibus erectis, excelsis, cylindricis.

*Genus Lodoicea.*

Flowers dicœcious; spathe three-leaved. In the male flowers, a spadix, or catkin, with scales strongly imbricated, bifid, and multifloral; calyx monophyllous, prismatic, with three unequal divisions; corolla with three linear petals, inserted on the androphore; more than twenty monadelphic stamens; filaments united at the base, and separated at their summit; anthers striated.

In the female, geniculated spadix; calyx with six imbricated leaves, with two bracteæ at the base; no corolla; three stigmas, sharp, sessile, and persistent; drupe very large, fibrous, containing one monospermic nut, with two, seldom three, lobes.

Sole species, *Lodoïcea* of the Séchelles.

*Lodoïcea* without thorns ; leaves very large, winged and palmated ; leaflets plaited, hood-like, connected at the base, and bifid at the top ; petioles grooved, and divided at the base ; spadix simple and inclined ; stipe straight, tall, and cylindrical.

The *Lodoïcea* of the Séchelles Islands is an intertropical (it might be said equatorial) tree, peculiar to the Archipelago of the Séchelles, but is indigenous to two only, Praslin and Curieuse, the latter of which is already interesting to science and humanity on account of its Lazaretto. Praslin is situated to the north-east of Mahé ; and the nearest points of these islands are about twenty-one miles distant. Curieuse lies to the north of Praslin ; is smaller than its neighbour ; and is separated from it by a deep arm of the sea, from one to two miles in breadth. Nearly joining the most eastern point of Praslin, as if it were an appendage to it, is a very small island, l'île Ronde, which was formerly covered with *Lodoïceas* ; but these trees are now entirely destroyed. These islands lie between the parallels  $4^{\circ} 15'$  and  $4^{\circ} 21'$  south latitude ; and the meridians  $55^{\circ} 39'$  and  $55^{\circ} 47'$  longitude east from Greenwich ; or  $53^{\circ} 19'$  and  $53^{\circ} 27'$ , meridian of Paris. In the other islands of this Archipelago there are but few *Lodoïceas* ; these have been planted by man, and, with the exception of two, do not blossom.

The trunk or stipe of the *Lodoïcea* is straight ; and frequently attains a height of eighty or ninety feet. It is surmounted by a beautiful crown of winged and palmated leaves. It is cylindrical and tolerably smooth ; but the whole length is slightly marked by the prints which remain after the leaves have fallen from it. These marks lie closest in the trees whose growth has been slow ; but where vegetation has been rapid, three rows generally occupy a space of about eight inches in length. The usual diameter of the stem is then about twelve inches ; but sometimes measures fourteen or fifteen. These proportions give so much flexibility to the tree, that a strong breeze can bend it till the large leaves hit and chafe against the neighbouring trees, making an extraordinary noise. The outside of the wood is hard and compact ; but internally it is soft and fibrous. That part which rests upon the soil assumes the form of a reversed conoid, whose base is on a level with the ground, and whose surface, beginning from this level, gives birth to a multitude of funicular roots, which spring from it like thick hair ; and these diverging penetrate the ground at some distance. They are almost cylindrical ; and their diameter is from six to nine lines. Their brown bark, which becomes blackened in course of time, is

very strong, and covers a softer substance. They survive the tree, or at least are preserved in an indefinite manner, long after it has ceased to exist. This is remarkably the case in those lands where fires have occurred, or which have formerly been dug up. The trees have perished and disappeared; their roots alone remain; and nothing around them recalls the existence of the trees they once nourished. On a level with the surface of the earth is a black circle, which is the widest opening of a funnel, often filled with vegetable remains. When this is removed, the black interior surface of the funnel is discovered, hollowed out like a bell, sometimes more concave, and always pierced with a number of holes, which are the orifices of the tubes into which the roots have been changed by the decomposition of their internal substance. Many of these tubes will admit the end of the finger. They are compact and sonorous; but a blow easily breaks them.

The leaves of the *Lodoicea* are winged, palmated, and open like a fan. They are larger when the stipe first leaves the ground than when it has attained a great height. Some are, in the first case, fifteen feet in length, without including the petiole, which is at least as long, but this is of rare occurrence. In the large trees, the petioles are shorter, from seven to eight feet long; and the whole leaf hardly attains the length of twenty feet, the breadth being ten or twelve. These leaves are entirely free from thorns. The petiole is thick, and channelled in a longitudinal groove as far as the first leaflets: the remainder is compressed laterally. Its edges are sharp, and its base spreads out, so as to embrace a great part of the stem. On its edges are some fibrous filaments which strengthen it; and it has in the middle, and throughout its thickness, a longitudinal fissure which has the appearance of a rent. The petiole is so strong that it can support a man on the extremity, towards the palmated part of the leaf. The leaflets, smooth and shining on the upper surface, strongly plaited, and hood-like, spring unequally from both sides of the petiole. They are united at bottom, and cleft into two points at the summit. The united part is longer in proportion as the leaflets approach the top of the leaf. The texture of the leaflets is very strong, and composed of fine threads or parallel fibres, disposed in three planes. The fibres of the two exterior planes are placed longitudinally, and are enveloped by the parenchyma: these form two layers, between which the transverse fibres that compose the middle plane are disposed at right angles with the others. The number of the leaflets varies considerably; the largest number I have reckoned is ninety-seven. Their number is always

uneven, and the middle one seems to be a continuation of the petiole. A strong membrane supports each fold. Till the moment of unfolding, the young leaves are enveloped by a thick layer of fawn-coloured cotton-like down: some are, however, totally devoid of this covering. The unanimous testimony of the inhabitants of Praalin, attests that only one leaf grows on each tree in the space of a year; and as I have said before, that we often see three leaf-marks occupy a space of eight inches on the stem, and that twenty years elapse ere this stem rises above the surface of the ground, it follows that a tree whose trunk is eighty feet high has existed nearly four centuries.

The male and female flowers grow on separate trees. The spadix which supports them rises from the same circle of insertion with the leaf that accompanies it; but instead of rising in the axilla of the leaf, it passes through the fissure of the petiole. In both sexes the spathe is composed of three leaves of a fibrous texture, which sheathe one another, and which open longitudinally on the outside. The first leaf, and, in general, the second also, are channelled in a groove on that side which is next to the tree. The summit of the first is cut off in a slope; that of the second is sharp, and remains fastened between the tree and the upper part of the petiole, thus supporting the weight of the spadix; while the third leaf, whose summit is equally sharp, is quite free. In the male flowers the spadix is terminated by a drooping catkin, from two to three inches in diameter, and two or three or more feet in length. This catkin inclines to a cylindrical form, and is terminated by an obtuse point. It is composed of brown scales closely combined, and strongly imbricated, with two rounded divisions, which leave between them a sloped opening through which the flowers pass. The series of these floral openings is arranged in squares on spiral lines round the catkin. When the catkin is broken across, elevations are seen on the inferior surface, which radiate from the centre to the circumference. These are oblong, convex, reticulated, of a conchoidal form, nearly resembling the shell of the genus nautilus. Each of these elevations is formed by an assemblage of about twenty sessile flowers, arranged in two lines, and, as it were, placed in reserve inside the catkin, in order to appear at the floral opening one at a time, sometimes in pairs, but seldom in greater numbers; and these blossom, to fall in their turn, as one peg is driven from its hole by another. The calyx is a prism, with three unequal faces, in one piece, and slightly divided into three unequal concave lobes of a reddish colour.

The corolla is composed of three small linear petals, their extremity concave, and alternating with the divisions of the calyx, of the same colour, and inserted in the androphorum, which is formed by the union of the filaments of the stamens. These petals are too narrow at their base to be contiguous, and leave spaces on the androphore in which the filaments may be traced. The stamens are more than twenty in number. I have reckoned from twenty-two to thirty in the flowers I have examined. The filaments united at the base of the calyx continue so above the insertion of the petals, forming a slightly striated column; but are separate for the remainder of their length. The anthers, oblong, striated, and slightly arrow-shaped, have two chambers which open longitudinally. The pollen is yellow, and pulverulent. When magnified, it presents ovoid utricles, transparent, smooth, pointed at the extremities, and marked with a longitudinal furrow. A velvet-like exudation, with a peculiar and rather strong smell, covers the whole surface of the catkin: in the microscope it has a gummy appearance, semi-transparent, and granulated. Sometimes it seems to be strewn with small filiform appendages. In the female flowers the spadix is simple, as in the male, but is strongly bent at the birth of each of its flowers, which succeed each other, without interruption, on the whole length. The flowers are about three inches in diameter. The calyx is sessile, with six oval leaves, imbricated by threes, and nearly enveloping the ovary before it is fecundated; they accompany the fruit when it falls. Two bracteas, or leaflets, resembling those of the calyx, are placed at its base; but they remain on the spadix after the separation of the fruit. Another foliaceous expansion, exterior to the bracteas, and almost circular, spreads itself out, and becomes common to the flower on which it depends, and to that part of the spadix which supports the flower that immediately succeeds. There is no corolla, and no style. Three stigmas, sharp, sessile, and persistent, rest on the summit of a fibrous drupe, which is generally a little compressed from top to bottom, and more rarely with three obtuse sides, enclosing a mono-spermic nut with two lobes in the first case, and three in the second. It sometimes happens that two nuts are enclosed in the same drupe, which is then four-sided. This drupe attains to a length of fifteen inches, and a circumference of three feet. It sometimes weighs from forty to fifty pounds. Long before it arrives at maturity, this fruit, then called a "coco tendre," is easily cut with a knife; and the transverse section shows, first an exterior envelope, green outside, and whitish through its thickness, with a

tart and astringent taste, as in the common cocoa nuts; this is the green outer shell. Then comes what is afterwards to be the hard shell of the nut; then a layer, more or less thick, of a white, feculent, and somewhat tasteless substance; then a yellow coating, very bitter, which is said to possess qualities of a poisonous nature. This contains the perisperm, a transparent white mass of a gelatinous appearance, which furnishes a sweet and melting aliment of an agreeable taste, when eaten at the right time. Then, in the central part that unites the two lobes of the perisperm, is the embryo, which at this time is scarcely visible. When arrived at maturity, the drupe is detached, and falls. The outer shell, which has become fibrous, and whose colour is then reddish yellow, decays; and, after a time, separates itself from the nut, the germination of which sometimes takes place before, sometimes after, this separation. This nut, of an eccentric form, is hard and black; and preserves traces of the fibres of the outer shell. Its lobes are divided by a longitudinal groove, interrupted on the inferior surface by a small even space, which on the upper surface, and near the base of the drupe, presents a rising, more or less prominent. This groove having reached that part of the nut corresponding to the summit of the drupe, becomes a deep bifurcation, at the bottom of which is the orifice where the germ is to pass, in the midst of a tuft of blackish hair-like threads. Inside the nut a thick and reddish epidermis covers the whole of the interior mass. The same substance that in the green fruit presented a feculent appearance, has acquired the hardness of horn, and a radiated contexture; the covering of the perisperm seems to have disappeared, and no traces remain of its yellow colour; the perisperm itself is more compact, and no longer fit for food; its substance having shrunk, a cavity is formed in the centre of each of its lobes. Between these is the embryo, of an almost spiral form, and of a yellowish colour. The germ which, on passing through the above-mentioned orifice, is of a fibrous nature, lengthens in a club-like mass, and, bending towards the ground, penetrates it. The radicle descends vertically, and takes the form of a cylinder, from whence spring the hairy roots. From the neck rises a radical fibrous leaf, pointed at top, and resembling a spathe, whose office it fulfils with regard to the first leaf, to which it gives a passage by opening longitudinally on one side. This first leaf is the smallest of all that are to grow; its petiole is almost cylindrical, with a slightly projecting angle on the upper part. The succeeding leaves gradually increase in size, and the petioles become more and more grooved, till the stem begins to rise out of the ground, which is

not before twenty years have elapsed. Then the leaves have attained their largest dimensions; and from that time their size diminishes. It is not till after this epoch, and an interval the length of which I cannot determine, that the Lodoicea blossoms for the first time. A very remarkable circumstance connected with this plant is the duration of its bloom, and the length of time necessary to mature the fruit. It bears only one spadix in each year, and yet the tree holds several at once, often eight, ten, or more; and almost all these spadices are in blossom at one time, which is accounted for by the multiplicity of the floral scales of the catkin, and the number of flowers enclosed in each, which blossom only in succession. The female trees bear flowers and fruits of all ages at the same time. It is stated, that as many as seven well-formed drupes have been seen on the same spadix. Some bear eight flowers at a time; but many of these fail. It sometimes happens that, without any real fecundation, the ovary is developed, and lengthens and bends, like an enormous cucumber. But it is formed by the outer shell alone, and contains only the barren rudiment of the nut. It is estimated that the fruit must remain seven or eight years on the tree ere it attains perfect maturity. The following is a fact which supports this assertion. Of some Lodoiceas which have been planted on the island of Mahé, two only have, to my knowledge, blossomed hitherto. These two trees, one a male, the other a female, grow at a distance of three miles from each other. Although they had blossomed for several years, particularly the female, which was much the older of the two, this last had never borne any fruit till about seven years ago; in 1833, it occurred to M. Bénézet, Registrar of the Tribunal de Paix, that he might fecundate it after the manner in which the Arabs assist the fecundation of the date trees. He took a catkin from the male tree, which grows on the estate then belonging to Mr. George Harrison, at that time agent for the government at the Séchelles, and of which M. Collie is the present proprietor, carried and fastened it to one of the upper leaves of the female tree, which is on the Providence estate belonging to Mrs. Dargent. This trial succeeded: fecundation took place in one single flower, whose ovary began to develope itself some time after. The fruit is still on the tree, and alone in the midst of the spadices and their unfecundated flowers, for the experiment has not been repeated. It seems to be approaching to maturity; but there is nothing at present that indicates its fall.

This tree grows in all kinds of soil, from the sandy sea-shores, to the arid mountain tops. But that in which it most frequently



grows is formed of an argillaceous earth mixed with crumbled granite, of a consistency analogous to that of tufa, and which the drought renders pulverulent on the surface. This earth is found on the declivity of mountains, and covers the enormous masses of granite which form their support. But the finest trees are found in deep gorges, on damp platforms, covered with vegetable earth, and in the midst of various aquatic plants. It is sufficient if the nut be on the ground, and in the shade, for it to germinate; under favourable circumstances this takes place at the end of a few months after its fall. The germination does not usually take place if the nut is much exposed to the sun, or if it is buried in the earth.

Near the sea, and in places exposed to the free action of the wind, the torn and hanging leaves of the *Lodoïcea* sometimes give it a desolate aspect, even in its native isles. But in the interior of the remains of its ancient forests, and, above all, in the mountain passes, the height to which it bears its enormous leaves, and the number of its straight and light stems, resembling so many elegant columns, produce an admirable effect. It must, however, be owned, that even then its beauty does not equal the expectations of its magnificence which are formed when seen for the first time at that period in which the stem, ready to appear, springs from the ground, like a gigantic and superb vase, unfolding the graceful plaits of its leaves, which have then attained the point of most luxuriant vegetation.

No one cultivates this tree; and the destruction that has taken place is much to be regretted. Till lately, there was a custom at Praslin, which is fortunately suspended at present, of cutting down these trees in order to obtain their fruit, their great height seeming to forbid the attainment of it in any other manner. The same measure is often resorted to in order to obtain the tender leaves, known by the name of "cœurs de coco," of which several things are made. Might we not be tempted to apply to the *Lodoïcea*, and the inhabitants of Praslin, the energetic sentence in which Montesquieu paints despotic governments, with one touch? A result of this deplorable custom is that the male trees are more numerous than the female; and in exploring both sides of the road that leads from l'Anse Pasquer to la Grande Anse, passing through a part of Praslin, the Plain des Hollandais, which is about an hour's walk, not a female *Lodoïcea* is to be found, and there are but few males

<sup>1</sup> "When the savages of Louisiana wish for fruit, they cut down the tree and gather it. Such is despotic government."—*Esprit des Loix*, Liv. 5, ch. xiii.

of the species. Does not this fact, added to the destruction of several forests by former cultivators, and by fire, give cause to fear the loss of this unique species, so interesting on many accounts ?

Whenever the *Lodoicea* disappears, the *filao* (*Casuarina equisetifolia*) takes its place, covering the soil with a thick and sterile layer, formed by its falling leaves, to the gradual exclusion of the other trees.

The many uses to which the *Lodoicea* can be applied render it one of the most useful trees. While the fruit is tender, it is an agreeable and refreshing food. Arrived at maturity, it furnishes oil. Its germ, when developed, makes a very sweet dish. The hard shell of the nut is cut into vases of different sizes, which are excellent for drawing and carrying water. The entire nut is an article of trade with India, where, among other uses, it appears to be employed as an astringent medicine. It was this nut which, carried to the sea by torrents, and then transported to the coasts of the Maldives by the currents which flow in that direction during a part of the year, had appeared to the astonished navigators before the *Séchelles* were discovered, and which they deemed to be the produce of an unknown, sub-marine tree, whence the name, *Sea Cocoa Nut*. The trunk of the tree can be used for building. When split and deprived of its internal substance it forms good channels for conducting water ; or makes excellent *pallisades* for farm yards and gardens. The petioles of its leaves are often put to the latter use ; while their palmated expansion is advantageously employed in thatching cottages ; and when platted, furnishes materials for men's hats, and women's bonnets, boxes, baskets, elegant fans, and all those tasteful and charming works for which the ladies of the *Séchelles* have acquired deserved celebrity. The woolly down, taken from the leaves, formerly did, and might still, serve to stuff pillows and mattresses.

The genus *Lodoicea* has many relations with the genus *Latania*, and particularly with the genus *Borassus*. But this last differs essentially from the *Lodoicea* in its spadix, which is more or less branched ; in its corolla, which is rather saucer-like than inserted on the androphore ; in its six stamens, whose filaments, which are stronger, and implanted in the centre of the corolla, bend outside, and spread themselves in rays ; and in its drupe, which contains three kernels. The essentially different characters of the genus *Latania* are, the very much branched spadix ; its catkins with unifloral scales, in which the flowers are set as a stone in a ring ; its male flowers, with only fifteen or twenty monadelphic stamens ; and two

small drupes, containing three nuts. The seminal utricles of these two genera are yellow, and ovate, like those of the *Lodoïcea*, with this difference, that those of the *Latania* are smaller, and of a more elongated form. In this respect they resemble those of the common cocoa-nut tree; but the latter are of a light blue colour. It appears that the sharp, ovate form, marked with a longitudinal furrow, is generally met with in the pollen of palm trees.

The only palms that we have found with the *Lodoïcea* are those of a species of the genus *Latania*, the thorny *Latania*, whose leaves are used to thatch cottages; and the thorny palm, belonging to the genus *Areca*.

In all the creeks are large plantations of cocoa-nut trees (*Cocos nucifera*). In the isle Mahé, and the other islands of this Archipelago, are found, besides the palm trees we have mentioned, the dwarf cocoa (*Cocos Guineensis*); the white palm tree (*Areca oleracea*); the areca (*Areca Catechu*); the *Sagus Raphia*, now *vinifera*; the *Cicas circinalis*; the date tree (*Phenix dactylifera*); and the red *latania* (*Latania rubra*): The four latter species do not seem to be indigenous; I think that they have been imported into the Séchelles. There is at Mahé, on the estate of Mme. V. Dantoine, a male palm belonging to the genus *Borassus*, which is the only one left from some seeds that were sown, brought, it is said, from Madagascar. This tree is very remarkable on account of its palmated leaves, which rise round the stipe on three spiral lines; and whose petioles, which are channelled, and edged with blunt thorns, resembling bent sickles, are divided at the base into two flattened parts, which are interlaced round the tree.

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ART. V.—*Memoir on the Length of the Illahee Guz, or Imperial Land Measure of Hindostan.* By COL. J. A. HODGSON *Bengal Native Infantry, late Surveyor-General of India.*

Read April 4, 1840.

IN submitting to the Royal Asiatic Society the following remarks on the very important inquiry, as to the length of that unit on which is founded the simple but perfect system of land measurement, by bigahs and their subdivisions, adopted by the most enlightened of the Moghul sovereigns of Hindustan, the Emperor Akbar, I hope I may be excused for entering into much more detail than the subject may at first seem to require; and before entering into the investigation, that I may be allowed to submit some preliminary remarks.

In 1821, the government of Bengal having resolved to institute revenue surveys of some zillahs in the north-west, or Ceded and Conquered Provinces of Hindustan, I, being then surveyor-general of India, was consulted as to the measures to be pursued in these new, important, and expensive operations. I wish it were in my power to give a clear and condensed account of the various topics of the correspondence that ensued, on the result of which might be founded extensive revenue surveys. Those provinces of Hindustan were immediately under the vigilant government of the Moghul and Pathan emperors, and from their climate and fertility, and from the character of their agricultural and warlike population, are of more value to us than any other portion of our dominion. Under this description may be classed the whole country from Patna upwards, or indeed from Monghyr on both sides of the Ganges, and Jumna, and all their tributary streams, as far as our rule extends; these are the native countries of the Sepoys of the Bengal army, men stout of body, and brave, and faithful. The Hindús of that army, by far the greater proportion, are nearly all of the agricultural classes, and so are some of the Mussulmans, and all these have an interest in every measure of the settlement of the land revenue.

It was the intention of the government, on the basis of the revenue surveys, to endeavour to make such settlements in those

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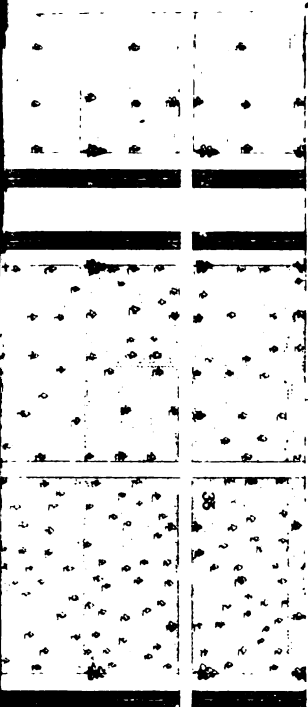
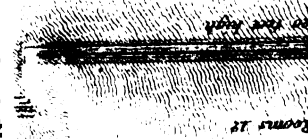
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provinces to which the permanent settlement had not extended, as might on the one side avoid the bad consequences of an unalterable arrangement made on uncertain grounds, and on the other, those which by allowing to the occupiers of land very short leases, give them little security in their possession, and consequently little interest in the stability of the government of the country. To the officers of the government much trouble was given, by the frequent revisions and settlements, and opportunity for repeated and vexatious meddling with the rustic population, by the lower description of the natives attached to the revenue departments.

Much consideration was required, also, as to the mode of conducting surveys, which, if they should be found to succeed, were to be extended over very large tracts of country, and of which the expense would be great. If too loose, or defining only the boundaries of pergunnahs, or even of villages, they would be of little use to the collector, as in that case the interior measurements would be entirely left to the native measurers, and wide doors opened to fraud; on the other hand, if extreme detail were attempted, such as measuring fields, or small portions of occupancy, as it was understood had been done at Madras, it was evident that the task would be endless; and such minute inquiry, and constant intermeddling of inferior agents, would not be endured by the high-spirited Pathans and Rajputs. It was, therefore, determined to institute zillah surveys, of each village in the zillah separately, to be embodied afterwards, by combining the maps of each village into a general map on a smaller scale,—a proceeding by which the topography, and even the geography, of the country has been improved. The boundaries of the villages were to be defined with accuracy by the European officer, as well as the more important features within them, such as the amount and nature of land under cultivation, or capable of being cultivated, water, jungles, pasture-lands, jeels, lakes, water-courses, the site of the village, and some other matters. The boundary measurements the surveyor did himself, with the best instruments; and he assisted in, or superintended, the labours of his assistants in doing the rest: of all proceedings accurate field-books were kept, and maps constructed of each village, each map being accompanied by an explanatory table of such information as could be taken without offence to the feelings of the inhabitants. These maps and tables were intended for the use of the collectors, as they would afford them the best assistance in making the settlements on the spot, when they visit the village for that purpose. Duplicate copies were to be made, to be deposited with the Record

Committee, and other useful means were contemplated; but I will rather proceed to state, as briefly as I can, what was done, than what was intended.

I was directed to proceed to the upper provinces with the people and materials belonging to my department. I accordingly established my office at Futtehgur, and was directed to put myself in communication with the Board of Revenue of the Western Provinces, and with the collectors of revenue, and especially with Mr. Henry Newnham, the respected and experienced collector of Furrukhabad; and we were instructed among other things to endeavour to ascertain the length of the Illahee guz, the standard measure ordained by the Moghul emperors in Hindustan, the square of 60 of which (or 3600 square guz) compose a bigah.

It is needless to dwell on the importance of knowing the length of the guz,—the fundamental scale of all land measurement: it affects every settlement of land revenue, past and to come, and every species of grant made by the Moghul emperors from the time of Akbar; and although we may, if we please, in the spirit of innovation ordain any new standard for future operations, and reckon in yards and acres, these must be reduced to bigahs, not only in the adjustment of former grants and settlements, but in those to be made, if we wish to be understood by the occupiers of the land, or to understand them. They hold the royal scale in high veneration and respect, and though many variations have taken place during the troubled times of the dissolution of the empire, the Illahee guz is always regarded as the standard measure, and a knowledge of its real length is justly looked on as a desideratum.

Before going further, it is necessary to state what we find in the Ayin Akbari, or, Institutes of the Emperor Akbar, on the subject of land measures. We learn from that authority, that till the thirty-first year of the emperor's reign, though the guz of Akbar Shah, consisting of 46 fingers, was used as a cloth measure, yet the Sikandari guz (of about 32 fingers) was used for every other purpose; but his Majesty taking into consideration the inconvenience of a multiplicity of measures, commanded that for all purposes there should be used only one guz, consisting of 41 (forty-one fingers), and named it the Illahee guz. He also adopted Nushirvan's measurement of 60 squares, which he made to consist of that number of Illahee guz, and ordered that the tenab, which was formerly made of rope, should be made of bamboos, joined together by iron hoops. It is there mentioned that the bigah and jarfb are names applied indifferently to the measure itself, as well as to



such a quantity of land. It consists of 3600 square guz, and the subdivisions of the bigah are as follow :—

20 Unswanseh	make	1 Pitwanseh.
20 Pitwanseh	...	1 Tiswanseh.
20 Tiswanseh	...	1 Biswanseh.
20 Biswanseh	...	1 Biswah.
20 Biswah	...	1 Bigah.

All the divisions below the tiswanseh are imaginary. No revenue is required from 9 biswanseh, but 10 biswanseh are accounted 1 biswah<sup>1</sup>.

The simplicity of these land measures contrasts favourably with the clumsy mode of reckoning of our ancestors in acres, roods, and perches, all unequal denominations; but Hindustan and China are agricultural countries, and the simple and effective adaptation of means to ends is an Oriental characteristic.

The Emperor Akbar reigned for twenty-nine years after he had made the above regulations; and though we do not seem to be well informed as to the extent to which his contemplated surveys were made under them, it may fairly be supposed that they were made to a considerable extent, and most probably in the vicinity of the capital. We know that a very great degree of order prevailed in his reign, and that the affairs of the land revenue and the surveys were under the superintendence of his able Hindu minister, Toorul Mull. It may, perhaps, be suspected that the modes and scales of measuring were not new in themselves, but that the minister might give the favourite Mussulman name of Illahee or "divine" to the measure adopted by the sovereign; for I hardly suppose the experienced Hindu would recommend a measure foreign to the people's habits. However that may be, we shall most likely some day find that the settlements of that day were made according to the imperial bigah, and that grants made by Akbar and his successors, before the empire fell into confusion, were regulated accordingly.

The length of the guz or dirra of Akbar was to be equal to the breadth of 41 fingers. (I must, however, remark that Shah Jehan increased it to 42 fingers.) Our first inquiry was, What is the breadth of one finger? and it was pursued in every mode we could think of. It may seem a trifling consideration, but it was of the first importance. On this unit all depends. The English finger is  $\frac{1}{4}$ th or  $\frac{75}{100}$ th parts of an inch; but this was no guide, as those measures which are derived from natural substances, or parts of the human body, vary; the foot, or its estimated length, varies in every

<sup>1</sup> Ayeen Akbery, Vol. I. part iii. Illahee Guz, 4to. Edition, 1800, p. 302.

kingdom in Europe. I was not without hope that I should in time discover some building or space, the dimensions of which are recorded in the guz; but till that desideratum were obtained, I was compelled to make the best approximation I could, by ascertaining the size of natural substances for the breadth of the finger. The first was to measure the fingers of the natives themselves; accordingly, on the same day I measured at Futtehgur the breadth of the four fingers of the right hand of seventy-six men of different classes: the measures were taken by me with calibre compasses; first, the extent of the hand across the knuckle joints, and then that across the middle joints of the fingers: the last is, I believe, the proper mode. The stoutest men were the Sepoys of the 2nd battalion 4th regiment of Bengal Native Infantry (now the 23rd regiment N. I.); the next were the Sepoys of the Furrukhabad provincial battalion; and following them the various classes of in and out-of-door domestic servants, the stoutest men being the Sepoy grenadiers, and the smallest the domestic tailors. The particulars are as under:—

Description of Men.	Breadth across the knuckle joint.		Breadth across the middle joint.	
	In.	...	In.	...
<i>Sepoys, 2nd Battalion, 4th Regiment, Bengal N. I.</i>				
1 Grenadier Company . . . . .	3.40	...	3.05	
2 Ditto. . . . .	3.50	..	3.42	
3 " . . . . .	3.35	...	3.27	
4 " . . . . .	3.45	...	3.10	
5 " . . . . .	3.40	...	3.00	
6 Battalion Company . . . . .	.47	...	3.20	
7 " . . . . .	3.50	...	3.25	
8 " . . . . .	3.45	...	3.32	
9 " . . . . .	3.35	...	3.05	
10 " . . . . .	3.25	...	2.97	
11 " . . . . .	3.20	...	3.02	
12 " . . . . .	3.20	...	2.90	
13 " . . . . .	3.40	...	3.17	
	13) 43.92	...	40.72	
	Mean 3.384	...	3.132	
<i>Furrukhabad Provincial Battalion.</i>				
1 Grenadier Company . . . . .	3.25	...	3.15	
2 " . . . . .	3.25	...	3.20	
3 " . . . . .	3.35	...	3.10	
4 " . . . . .	3.30	...	3.05	
5 " . . . . .	3.35	..	3.05	
6 " . . . . .	3.30	...	3.10	
7 Light Infantry . . . . .	3.50	...	3.10	

Description of Men.				Breadth across the knuckle joint. In.	Breadth across the middle joint. In.
8	Light Infantry	.	.	3·45	3·30
9	"	.	.	3·95	3·15
10	"	.	.	3·40	3·25
11	Battalion Company	.	.	3·45	3·45
12	"	.	.	3·00	3·045
13	"	.	.	3·50	3·350
14	"	.	.	3·45	3·30
				<u>Mean</u> 3·342	<u>3·185</u>
1	Lascars (Tent-pitchers)	.	.	3·10	3·05
2	"	.	.	3·25	3·10
3	"	.	.	3·17	3·05
4	"	.	.	3·20	2·95
5	"	.	.	3·05	2·75
				<u>Mean</u> 3·152	<u>2·98</u>
1	Harkára (Messengers)	.	.	3·10	3·05
2	"	.	.	3·25	3·15
3	"	.	.	3·02	2·90
				<u>Mean</u> 3·12	<u>3·03</u>
1	Bhishtí (Water-carrier)	.	.	3·37	3·25
2	"	.	.	2·97	2·80
3	"	.	.	3·20	3·10
4	"	.	.	3·40	3·25
5	"	.	.	3·15	3·10
				<u>Mean</u> 3·33	<u>3·08</u>
1	Kahár (Palkí-carrier)	.	.	3·17	2·95
2	"	.	.	3·15	3·02
3	"	.	.	3·10	3·02
4	"	.	.	3·25	3·05
5	"	.	.	3·20	3·05
6	"	.	.	2·97	3·12
7	"	.	.	2·82	2·70
8	"	.	.	3·02	3·00
9	"	.	.	3·25	3·05
				<u>Mean</u> 3·19	<u>2·99</u>
1	Barhai (Carpenters)	.	.	3·05	3·02
2	"	.	.	3·17	3·00
3	"	.	.	3·05	2·90

Description of Men.		Breadth across the knuckle joint. In.	Breadth across the middle joint. In.
4	Barhai (Carpenters)	3·05	2·95
5	"	3·02	2·85
		<u>Mean 3·07</u>	<u>2·94</u>
1	Lohár (Blacksmith)	3·20	3·12
1	Kulf (Labourer)	3·17	3·12
2	"	3·07	3·02
3	"	3·45	3·22
		<u>Mean 3·23</u>	<u>3·12</u>
1	Málf (Gardener)	3·27	3·22
2	"	3·30	3·17
		<u>Mean 3·28</u>	<u>3·14</u>
	Dhobí (Washerman)	3·22	3·05
	Daftarí (Office-keeper)	2·97	2·90
	Báwarchí (Cook)	3·45	3·17
1	Sáfs (Groom)	3·17	3·02
2	"	3·02	2·65
		<u>Mean 3·08</u>	<u>2·83</u>
	Makkhanwalah (Butterman)	3·20	2·97
1	Darzf (Tailor)	3·05	2·82
2	"	2·97	2·82
3	"	3·00	2·75
		<u>Mean 3·00</u>	<u>2·79</u>

Thus it appears that the mean breadth of the hands of seventy-six men, taken at the knuckle joints, is 3·2287 inches, and at the middle joint of the fingers, 3·078. If the former be considered the breadth of four fingers, the breadth of one finger will be 0·8053, and the guz of 41 is 33·018, the length of the side of the bigah 55·030 yards, and the square yards therein will be 3028·3. But if the lower and smaller measure across the finger joints (which I apprehend is the true mode) be taken, then the proportion will stand

thus: 0·769 inches = 1 finger; 31·549, 1 guz; 52·583, the side of the bigah; and the square yards in it, 2769·9.

It is understood that the Emperor Shah Jehan ordered the guz to be fixed at 42 fingers, but it is unlikely he would alter the length of the guz itself, as that would create confusion. Perhaps he thought 42 a more convenient number than 41; the alteration might be made by reckoning the finger less than Akbar's, making it the 42nd instead of the 41st part of the established scale, and it is remarkable that the finger will then be very nearly, if not quite, the same as the English finger,  $\frac{3}{4}$  of an inch or  $\frac{3}{16}$ , if I am right in my estimation of the length of the Illabee guz, on the grounds shown in the sequel. In the following table I have, however, set down what the guz would be at 42 fingers, supposing 1 more of the same breadth added to Akbar; not that I believe such a measure was used by Shah Jehan.

Fingers.	Breadth of Fingers.	Mode of reckoning.	Length of Guz.	Side of Bigah. Yards.	Area of Bigah. Yards.
41	0·750	English	30·750	51·25	2626·5
42	0·750	"	31·500	52·50	2756·0
41	0·769	Actual measure	31·549	52·58	2769·9
42	0·769	"	32·298	52·83	2807·7
41	0·805	"	33·018	55·03	3028·3
42	0·805	"	33·822	56·37	3177·7

In the Shara Vikáyah, an Arabic law book of the first authority, the jarib is stated to be 60 zirá multiplied by 60; and in the books of law the zirá of cloth is 7 kubza, and the zirá of land measurement is 7 kubza, "with the thumb erect, but according to calculators the zirá is 24 fingers, and each finger is 6 barleycorns, the bellies laid towards each other."

Six barleycorns being also generally understood to be the value of a finger, many experiments were made to determine it, particularly by Mr. Halhed, collector of Moradabad, assisted by Captains Bedford and William Browne, surveyors; the experiments were numerous, and made at different days of September 1824, and with great care; the details are too long to insert here, but they are on record. I merely mention that the grains were measured in alter-

nate sets of 36 and 72, the state of the thermometer and other precautions taken. The mean result was 0·77666 inch for the finger, 31·843 inches for the guz of 41 fingers, and 32·620 for that of 42.

Experiments were also made by Mr. Halhed with mansuri pice (a small copper coin); 42 of these being held to make a guz, the mean of 6 experiments gave for the length  $32\frac{3}{8}$  inches. The pice were laid flat on a board, but they are not perfectly round. Mr. Halhed also measured the cubits of a number of the inhabitants of Rohilcund, from the end of the elbow joint to the tips of the middle finger, 2 of which cubits are reckoned by the country people to be a guz; the mean of men of different heights gave 33·7 inches. This is the mode by which the land measurers in some parts of Rohilcund adjust their jarib ropes, and is only worth mentioning to show its inaccuracy, and the irregularity which has prevailed since the vigilant control of the imperial officers of revenue has been withdrawn.

I must be allowed to mention two or three more attempts to discover our object. In the garden of the Táj Mahal, at Agra, I measured the lengths of 800 of the lozenge shaped stone flags, with which the walks in the garden are paved; the Dárogħa told me that he believed they were each a guz in length. In the long walks they were nearly of the same length, and I found they would give a guz of about 33·58 inches; but in another part of the garden they were 4 inches shorter, so that these flags furnish no scale. I also procured from the Dárogħa a Persian MS. compiled by him, purporting to give the dimensions of several parts of the Táj in the guz measure; I measured many parts mentioned, but they gave discordant results; and in my report to the government, I observed that these operations were of no value. The manuscript was evidently the fabrication of an impostor. It was long after this that Mr. Newnham obtained a copy of the Shah Jehan Náma, by means of which *I discovered the true length of the Illahee guz*; but this is to anticipate what I must discuss in its place.

I will not now enter into more detail of the various inquiries and experiments made to determine the real length of the guz; it was my duty to make them, and very anxious I was to obtain good authority. At last I was able to do so, through Mr. Newnham's means: he got possession of a Persian manuscript copy of the Shah Jehan Náma, in which was found a very particular description of three principal buildings at Agra,—the mausoleum of the Táj Mahal, the Muti Masjid, or marble mosque, in the fort, and the Great Mosque or Jamah Masjid, near the fort. This valuable

manuscript was translated by Mr. Dyce at Futtchgur, very literally and faithfully, as I was assured by the late learned Captain Ruddell, professor in the college of Fort William, to whom I submitted it for examination, to be compared with the copy of the Shah Jehan Náma in the College Library. I insert a copious extract of it, with marginal notes. (See page 56.)

Some of the expressions in the translation may appear unidiomatic to us, but it must be remembered that many of the sentences are translations from Persian verse into English prose,—no easy task for a scholar ; but our affair is not with the elegance of the translation, but with its correctness where the particulars of the measurements are concerned.

Being, then, in possession of this valuable description of the imperial buildings at Agra, I went there in December 1825, taking with me Mr. Marcellus Burke, assistant revenue surveyor, and Messrs. James and Winston, apprentices, for the purpose of making measurements of the three buildings, and a plan of the Táj (scale 40 feet to an inch), which was effected under my superintendence, and copies of the proceedings, were forwarded to the territorial department. My object, of course, was, knowing from the Shah Jehan Náma the lengths of the different parts of the buildings therein described, in the Illahee guz, to find their length in English measure ; and from the average of the whole to attempt to determine the length of the guz in inches and decimal parts.

I must remark, however, that though we are certain that the guz mentioned in the manuscript is that used in the building, it is not so certain that the same was used in the measurement of land, though it is most probable that it was.

By reference to the measures in feet and inches, it was found that when the parts of the building measured are sufficiently long and well-defined, and open at the sides and ends, as the various platforms are, they agree pretty closely among themselves, in giving a proportion, the mean of which is 31.79 inches ; and that when differences from this to any amount take place, it is chiefly in those buildings which are closed at one side or end by a wall, and it is difficult to know whether its thickness ought to be included or not. To explain this I have added two statements ; in one of which marked A. all the measurements and results are given, and in the other marked B. only those which are most to be depended on. It cannot be expected, indeed, in a matter of this kind, that the results can agree to one or two tenths of an inch ; because the historian gives the measures in the *entire guz only*,

which, when the distance is short, will not give ground for an exact reduction, as to inches and parts of inches, if the real length of the place be more or less than *the even* or whole guz set down in the manuscript; nor should we perhaps expect in a history of this kind, any very accurate statement of the lengths and breadths of all the details of a building; still I think that on inspection of the paper B. it will appear from the small variations from it, in the *three separate edifices*, that the guz or dirra used in the buildings at Agra was 31·79.

Of the three buildings, the Táj is the most perfect; the descriptions of its details are more precise, and some of its larger parts admit of easy and correct measurement. In its smaller parts, as well as in the shorter measures of the Muti Masjid, and Jamah Masjid, the parts to be divided often bear a small proportion to the divisor, and there is uncertainty whether the walls are to be taken in or excluded; but in some of the open terraces or platforms of the Táj, these difficulties are avoided. The length of the guz, deduced from these select portions, is less than that taken from the more general inquiry. I take three of the longest and best defined parts of the Táj:—

	Length in Guz.	Guz deduced. Inches.
1st. The breadth of the lower stone platform, or Kursí, including the balustrade marked in Plan I. . . . .	140	31·464
Mean breadth of the four sides of the upper marble platform. Plan II. . . . .	120	31·4568
Length of the Jilau Khána or Court, the place of waiting for retinues and attendants (See Plan IV.) . . . .	204	31·68

This last, though a long measure, could only be taken in one direction, and that not very satisfactorily, on account of uneven ground; and there is uncertainty whether to take in or exclude the boundary walls.

The mean length of the measure from these three long and well defined parts is 31·53 inches, which must needs be a very small deviation from the truth; but I will endeavour to obtain the standard perfectly correct, from that part of the Táj which admits of being best measured, and is in itself of very perfect workmanship. This part is the marble kursí or platform, in the centre of which the mausoleum stands, as will be seen in the plan. At each of the four corners is a marble minár of exquisite and beautiful proportion, of the height of about 133 feet. The height of the walls which support the platform is 18 feet: they are cased with white marble,



as is the entire mausoleum, both inside and out. The marble platform rests on the larger one of stone; it is, I suppose, a nearer approximation to a square than was ever attained in so large a mass of masonry: it was intended to be a perfect square, each side of 120 imperial guz, and the whole 14,400 square guz; and it is remarkable that it is *exactly* 4 *bigahs*, which most probably it was intended to be: *here*, then, appears to be the measure we want, as near as we can expect to attain it. Those who have experience in such things, will not be surprised to find in the measurement of four sides of a square of masonry of 314 feet, an extreme difference of 6 inches among them, especially when it is considered, that as the building has stood about 190 years, it may, perhaps, have shrunk a little.

The first measurement made of the marble platform, being of two sides only of the square, and within the low balustrade which covers the top of the containing wall, is that set down in the statement B.; but I afterwards desired Captain Boileau to make another measurement of the four sides of the square, including the thickness of the top of the supporting wall, but without the small projecting cornice; the measurement was carefully made with Troughton's steel chain, having 5 feet links. The lengths of the sides are as follow:—

	Feet.	Inches.
North side . . . . .	314	3·483
West side . . . . .	314	6·358
South side . . . . .	314	9·808
East side . . . . .	314	7·617

The mean being 314 feet 6·81 inches, and the number of inches 3774·8 divided by 120, gives for the length of the Illahee guz,

Inches.  
**31·456,**

which I believe to be the truth; and it is almost the same as the result of the next best measure, that of the lower or stone platform, which being 140 guz in width, gives 31·464, the almost insensible difference of the eight-thousandth part of an inch being of small consequence.

I now close this disquisition. I could have entered more deeply into it, but it may be thought already too long: it is, however, only by detailed inquiry that we can hope to elicit truth, in such a matter of fact. The subject may by some be deemed trifling (as it has been), but it may at some time be of great importance, and certainly in a historical point of view it is of interest.

**A.—Statement of the Lengths of different parts of the Jamah Masjid, Muti Masjid, and Táj Mahal, at Agra, in English and Moghul Measures, taken for the purpose of deducing the relative proportions of each.**

	Length and Breadth in Feet and Inches.	Inches.	Length and Breadth in Guz, according to the Shah Jehan Náma.	Length of the Guz or Dirra deduced.		
Fort	Inclosure before the Delhi gate of the fort . . . . .	451.11	5423	170	31.90	
	N.S. square court before the mosque, inclosing the two side buildings.	266.05	3197	100	31.97	
	E.W. square court, exclusive of building (S. of the mosque) . .	208.04	2500	80	31.25	
	Breadth of lower kursí, including the balustrade . . . . .	367.01	4405	140	31.46	
	Mean of E.W. and N.S. diameters of upper marble platform . .	313.07.91	3763.91	120	31.36	
	The kursí of the mausoleum . . .	186.01.93	2233.93	70	31.96	
	Diameter of the large octagon hall in which the tombs are . . . .	58.01.79	697.79	22	31.71	
	Breadth of resting-places or nishe-mans in the octagon rooms . .	7.10.67	94.67	3	31.55	
	Length of do. " " . . . . .	15.11.41	191.41	5.5	34.80	
	Square rooms at the four cardinal points . . . . .	15.09.41	189.41	6	31.57	
	Seats in the above rooms . . . .	12.03.47	147.47	4.5	32.77	
	Length of a peah-tak or arch . . .	42.02.86	506.86	16	31.67	
	Octagonal rooms at the corners . .	26.04.49	316.49	10	31.65	
	Length of peah-taks to the octagonal rooms . . . . .	18.05.29	221.29	7	31.61	
	Breadth of do. " " . . . . .	10.06.25	126.25	4	31.56	
	Táj Mahal	Length of mosque west of the mausoleum . . . . .	185.02.97	2222.97	70	31.75
		Length of raised platform before the mosque . . . . .	184.11.97	2219.97	70	31.71
Length of the hauz before the mosque . . . . .		37.07.58	451.58	14	32.25	
Breadth of do. " " . . . . .		29.07.86	355.86	10	35.58	
Water-course . . . . .		16.03.42	195.42	6	32.57	
Exterior of the marble chabútara or platform centre of the garden Reservoir in the above chabútara .		74.07.15	895.15	28	31.97	
Length of chabútara before the great gate . . . . .		43.02.47	518.47	16	32.40	
Breadth of do. " " . . . . .		210.10.93	2530.93	80	31.63	
Breadth of do. " " . . . . .		85.11.68	1031.68	34	30.34	
Length of jilau khána . . . . .		538.07.44	6463.44	204	31.68	
Breadth of do. " " . . . . .		417.02.14	5006.14	150	33.37	
Muti Masjid	Length of mosque in side N.S. . .	148.04.64	1780.64	56	31.79	
	Breadth of mosque in side E.W. .	56.10.84	682.84	21	32.51	
	Height of platform of mosque above the court . . . . .	2.06.75	30.75	1	30.75	
	Tenee khána, length E.W. . . . .	44.10.84	538.84	17	31.69	
	Do. do. breadth N.S. . . . .	9.03.25	111.25	3.5	31.78	
	Interior of hauz or marble reservoir for water . . . . .	26.08.27	320.27	10	32.63	

B.—Statement of the Lengths of different parts of the *Jamah Masjid*, *Muti Masjid*, and *Táj Mahal*, at *Agra*, in English and Moghul Measures, taken for the purpose of deducing the relative proportions of each.

		Length and Breadth in Feet and Inches.	Inches.	In Guz.	Length of the Guz or Dirra deduced.	
Jamah Masjid.	Fort.	Inclosure before the Delhi gate of the fort . . . . .	451.11	5423	170	31.90
		N.S. square court before the mosque, inclosing the two side buildings . . . . .	266.05	3197	100	31.97
		E. W. square court, exclusive of building (S. of the mosque) . . . . .	208.04	2500	80	31.25
		Breadth of lower kursí, including the balustrade . . . . .	367.01	4405	140	31.46
		Mean of E.W. and N.S. diameters of upper marble platform . . . . .	313.07.91	3763.91	120	31.36
		The kursí of the mausoleum . . . . .	186.01.93	2233.93	70	31.91
		Diameter of the large octagon hall in which the tombs are . . . . .	58.01.79	697.79	22	31.71
		Breadth of resting-places or nishe-mans in the octagon rooms . . . . .	7.10.67	94.67	3	31.55
		Square rooms at the four cardinal points . . . . .	15.09.41	189.41	6	31.57
		Seats in the above rooms . . . . .	12.03.47	147.47	4.5	32.77
Táj Mahal.		Length of a pesh-tak or arch . . . . .	42.02.86	506.86	16	31.67
		Octagonal rooms at the corners . . . . .	26.04.49	316.49	10	31.65
		Length of pesh-taks to the octagonal rooms . . . . .	18.05.29	221.29	7	31.61
		Breadth of do. " " . . . . .	10.06.25	126.25	4	31.56
		Length of mosque west of the mausoleum . . . . .	185.02.97	2222.97	70	31.75
		Length of raised platform before the mosque . . . . .	184.11.97	2219.97	70	31.71
		Length of the hauz before the mosque . . . . .	37.07.58	451.58	14	32.25
		Exterior of the marble chabútara or platform centre of the garden . . . . .	74.07.15	895.15	28	31.97
		Reservoir in the above chabútara . . . . .	43.02.47	518.47	16	32.40
		Length of chabútara before the great gate . . . . .	210.10.93	2530.93	80	31.63
Muti Masjid.		Breadth of do. " " . . . . .	85.11.68	1031.68	34	30.34
		Length of jilau khána " " . . . . .	538.07.44	6463.44	204	31.68
		Length of mosque in side N.S. . . . .	148.04.64	1780.64	56	31.79
		Breadth of mosque in side E. W. . . . .	56.10.84	682.84	21	32.51
		Height of platform of mosque above the court . . . . .	2.06.75	30.75	1	30.75
		Tenee khána, length E.W. . . . .	44.10.84	538.84	17	31.69
		Do. do. breadth N.S. . . . .	9.03.25	111.25	3.5	31.78
		Interior of hauz or marble reservoir of water . . . . .	26.06.27	320.27	10	32.03

28) 890.22

Mean of the whole. Inches, 31.79

*C.—Description of the Táj and Masjids referred to in page 51.*

THE plan of the mausoleum of the Táj with the gardens, grounds, and various buildings appertaining to it, will be of use in considering the subject of the foregoing paper, and will give a perfect idea of the proportions of the *ground plot* of these remarkable buildings. It did not fall within the compass of my project to make sections of the elevation of their different parts,—such, as well as drawings, would be necessary to aid description; but plans and models and descriptions alike fail in conveying any adequate idea of their exquisite beauty. Many descriptions of the mausoleum itself have indeed been attempted, but they relate only to that perfect structure which contains the remains of the emperor Shah Jehan and his consort; the subordinate parts are in their degree worthy of it; the great gateway of the garden alone is a noble structure, and the mosque and its counterparts, the *mihmán-khána*, as well as the six octagonal pavilions of four stories high, and other buildings, and the various platforms, the reservoirs for water, the fountains, and canals of the garden, bounded by lofty trees, compose a most harmonious whole. Models of the mausoleum and its platform, and the four minárs, have been exhibited in England; one of these was of considerable dimensions, and well executed, but it could not give even a faint idea of the imposing and majestic beauty of the principal building. It is known that it is entirely cased with white marble, within and without, and that it is highly ornamented with inlaid work throughout. From the descriptions which have been given of its high finish, from the temptation, for want of other means of similitude, to liken it to a fairy fabric built of pearl or of moonlight, and from its having been not inaptly said that it should be kept under a glass case, those who intend to visit the Táj are apt to form an idea, that though beautiful it is small; but the contrary is the truth; it is of considerable dimensions and altitude, the entire height of the whole fabric, including the foundations and platforms, being about 283 feet above the surface of the ground, and it is visible at considerable distances in the country around. It must be remembered that this is not a temple but a tomb, the tomb of a mighty monarch, built for the remains of his consort and his own, (it contains both,) and that two centuries have not elapsed since its completion. It is, I suppose, one of the most perfect and beautiful buildings in the world. When seen through the long vista of stately trees which border the canal of fountains, and by which it is approached from the great gate, the mind is impressed with a sensation of solemn admiration; not less impressive ought to be the reflection, on the instability of dominion in Hindustan; the power of the mighty monarchs who erected so many magnificent buildings in their dominions, and which are almost as perfect as if finished yesterday, has passed away. Only 130 years have elapsed since the death of the son of Shah Jehan, the Emperor Aurungzebe, “whose dominion,” to use the words of Rennell, “extended from the 10th to the 36th degree of latitude, and over a space nearly as much in longitude, and whose revenue exceeded thirty-two millions of pounds sterling, in a country where the products of the earth are four times as cheap as in England.”

*Extracts from the Shahjehan Náma, by Muḥammad Salah Kumbo.*

"As this great city, to wit, Akbarabad, which in regard to population and buildings not having its equal upon the face of the earth, has bazars and streets of very small breadths, the Jilau Khána (meaning the king's court-yard) is also inadequate and narrow in its extent: Wherefore, by the great concourse of people, and the troops of the subjects (officers) at the times of levee by passing and repassing, especially on the id days and other rejoicing occasions, much inconvenience and injury was experienced by them. Further, a Jamah Masjid, corresponding with the grandeur and amplitude of the city, and with the number of people assembling, was not built; it, therefore, occurred to his Majesty's mind that this narrowness and deficiency should be removed and supplied. Conformably to this advantageous determination, the emperor passed his order, that the geometricians, with astrolabe capacity, will mark out before the gate of the fort, an octagonal area, similar to that which lies in Bagdad, making it 170 bádasháhi dirra in diameter, so that in each angle of the several angles five cells may be obtained, the total number of which apartments may be fifty or sixty, besides courts and halls to be erected. Accordingly skilful builders in the designed place first planned the Chauk\* as described above, and without delay traced it in the hour permitted by the astrologers. After the grand Mosque, the foundation of which was before this period laid on the banks of the Ríver Jumna, as formerly related, had been raised above ground, owing to the urgency of carrying on the works of the illumined mausoleum, the erection of it was postponed; moreover, the site of that Masjid being considered to be somewhat far from the central part of the population of the city, it was suggested to his Majesty, to have a Jamah Masjid built on one side of the Chauk mentioned above. On this occasion Nawab of holy title, a sháh-zádí of angelic form and Haura genius, mistress of the world of creation, Begum Sahib, (meaning the queen,) who was constant in the exercise of charitable and pious acts, and whose intention being solely bent on founding charitable and holy places, applied to his Majesty for permission to found this place of worship; His Majesty, in consequence, charged the mutasaddís of the sirkár of the princess, who is the elder and most respectable lady in the kingdom, with the performance of the work. And these officers of pious demeanour, with great integrity, occupied themselves very carefully in this business; first, as a part of the land of that place of worship did not appertain to the khalsa (or state), they by conciliation prevailed over the málikés thereof, to give up their respective claims to the same willingly and cheerfully, by increasing in some instances ten, and in others fifteen, the value which lands bore at that time, and such persons as declined to receive the prices of their portions, got in exchange better and more delightful houses given to them, by which circumstance they were more happy and pleased.

"Afterwards, at a propitious hour, the foundation of the said building

\* This is the inclosure called the Tripoli, between the Dehli gate of the Fort and the Masjid.

which originated in piety and benevolence, was thus laid, in length 130 dirra\* bádsháhi, and 100 ditto in breadth. The area of the part 80 dirra, containing nine large domes to the west, and fifty halls found in the angles. It is hoped that while the world continues and lasts, the merit and reward for erecting this charitable edifice will alight on and revert to that princess, foundress thereof.

"As the removals of the straitness of the streets and bazars would involve the demolition of the houses of many thousand people, which would be a very distressing procedure, his Majesty having the good of his subjects at heart, did not put his intention in execution on this point."

#### *Remarks on the Mausoleum at Táj Ganj.*

"His Majesty, in the fifth year of his reign, thought upon causing to be erected the Rauzah, which is a building like heaven, the firmness and elevated situation of the Sabaahdad (meaning the seven paradises) bear not the smallest comparison to its durability, and which now appears to be finished; and had it planned near the Jumna, which river runs to the north of it. Its foundation was laid from whence water springs, and architects built it of stone and mortar, making it strong and level with the bank; upon this plane the kursí (platform) of the mausoleum, (meaning the flat upon which the buildings were traced,) was erected, 374 guz long, 140 ditto broad †, and 16 guz high, and overlaid with red stones, embellished with Mosaic works. Such is the splendour of the buildings resulting from their high elevation, elegance, ornaments, forms, and amplitude of area, as not to be met with at any other place in the world ‡.

"Over the above-mentioned kursí, that is, in the middle of it, another was raised and covered with white marble, inlaid, 120 guz square§, and 7 dirra high. On this second kursí of the mausoleum (which reaches the heavens) a third was constructed, 70 dirra in diameter and 1 guz high, in shape a Bagdad octagon.

"The place of burial, in the centre of which the illuminated tomb stands, is finished throughout with white marble; from the floor to the zehor cornice it is octangular, and 22 dirra in diameter; from the izara to the inner point of the cupola in perpendicular height is 32 guz high; above this guava-shaped dome, on the basis of which the wisest geometers will fail to form an idea, a pinnacle in height 15 guz, made of pure gold, which glitters like the sun, has been fixed on its very summit. In the aggregate, from the surface of the earth to the top of the pinnacle, the height is 107 guz, and in the eight angles are eight resting places of two stories, each 5½ guz long and 3 broad.

\* This length could not be well determined, there being octagonal buildings at the corners.

† This could not be satisfactorily measured, on account of circular buildings at the ends.

‡ By observations made in November and December, 1826, I find the latitude of the centre of the tomb to be 27° 10' 21".—J. A. H.

§ This, the mean of the measurements of the four sides, (corrected,) affords the most satisfactory result; the marble platform is as nearly a square as it is possible for art to make so large a mass of masonry.

On the four cardinal points there are four square rooms of two floors, each is 6 dirra square, consisting of 4 seats, each of which 4½ dirra long, a tanhása before every square room, and a peah-tak, 16 dirra long, and 25 in height. In the four corners there are four octagonal rooms of three stories, the diameter of each 10 dirra, containing 8 nishemans, the uppermost story of these places being octagonal dáláns or halls, with arched roofs; on the three sides of these houses are three peah-taks on the outside, each 7 dirra long, 4 ditto broad, and 10 ditto high. In the centre of the dome is the bed chamber\* (meaning the grave) of her Majesty, over the top of which is a chabútara of white marble, upon which stands the outward form of a tomb; round this is an octagonal stone palisade of grated and inlaid work, the door to its entrance made of agate, worked as Grecian, and its joints are clamped with iron, which is covered with gold, 10,000 rupees being expended in this work. Within this exalted edifice, stars and lanterns of gold enamelled over are hung, and its four tajs are adorned with Aleppo looking glasses, leaving only one road for going in and coming out. At the four corners of this building, upon the marble kursí, which from the surface of the earth is 20 guz high, are built four minarets with staircases of the same stone, in diameter 7 and in height 52. Conceive the prayer from an immaculate breast, accepted by the Deity, to be ascending to heaven. Their solid foundation and high stature like exalted fortune, and the counsel of the wise may be said to do justice to the inclination of their ascension. In all the mausoleum, both inside and out, skilful engravers have employed fine art, and a variety of coloured stones and valuable gems, the delineation of whose property and praise cannot be comprehended in the sea of language: to trace the least degree of its goodness by description and figures is impossible; especially as the Chabútara of the illumined tomb is finished with such exquisite inlaid work, that the karnama of Urghunj, and the picture galleries of China and Europe, are in comparison to its beauty like painting upon water, having neither show nor being. The epitaphs both inside and out, which are composed of sections and sentences from the Koran, and which the workmen, with the diligence and skill of a Farhád, have most artfully finished with inlaid work, so as to give it a preference over the beauty of the starry heaven of the ruby lips of Bután (meaning mistresses).

“To the westward of the Rauzah stands a Masjid on the brink of a cistern, (70 guz long, and 30 broad,) consisting of three domes, which are lined inside with red stones and outside with marble. The border of the izara of the mosque is done with inlaid work both inside and outside, with white, yellow, and black marbles; the pavement, which is of red stone, has delineated thereon, with mosaic work, the arch under which the faithful pray. In the front of this place is a Chabútara 70 dirra long and 8 wide, also a Hauz (reservoir for ablution before prayers) built, 14 by 10; its sahn, enlivener of the soul, appears like the forehead of the righteous, filled with the light of blissfulness, the heart-elating prospect of which may be compared to the morning of prosperity opening the gates of liberality on the face of hearts (meaning man). To the eastward of the mausoleum, opposite to the Májid, a mihmán

\* This is a vault containing the graves of the Emperor and Empress.

khána\* has been constructed, in all respects similar to the Mosque, except that the peculiarity of the arch, and the darsan of the place of prayer, is left out. And in the four corners are four octangular burjs of three stories, with arched roofs, tipped inside with red stone, and outside with white marble, and in the side of each burj is a hall, 12 by 8, at the two ends of which are two rooms.

*Description of the Garden.*

“At the bottom of the red stone kursí, (platform or terrace,) is a garden like Paradise, which you would say has a pleasing prospect, like the mole on a Chinese, comprehending all the delights of the world; every one of its beds, formed on the rules of liberality, was as the bed of the garden of Razwán, expanding and comforting the heart, and attracting. The green trees have imbibed the nectar of immortality, and their respective statures, with regard to their genus, carried the palm on every consideration from *Túbá*, which is said to be a plant in Paradise. In the four beds situated in the centre of the orchard, each of which is 40 dirra broad, there is a water-course 6 guz broad, in which jets d'eau besprinkling light are by the waters of the Jumna playing and sprinkling pearls; in the centre of the said garden is a chabútara, in length and breadth 28 guz, round which the above water-course runs. In the centre of the chabútara is a reservoir, filled up with water from the Konsur, which is said to flow in Paradise with nectar, in length and breadth 16 guz †, circled with fountains playing. Conceive that lamps in the heart of the day, illuminating the world, are lit. In short the peculiarities of this paradise-like orchard, the particularities of its bed which are entirely built of red stones, the Shah Canal characteristic of the milky way, and the reservoir constructed on a new plan from materials of the mineral kingdom, is done with limpid crystal with such a degree of skill, that it is impossible to excel its workmanship. To bestow the least praise on the whole, words are wanting. To the southward of the garden halls and courts are built, and in the angles of the east and west two grand burjs, or towers, are erected with pleasing halls, and the gate of this splendid edifice is extremely high and of good shape like the gate of Paradise; it is finished superbly. In great height and with painting of a variety of figures and pictures, embellished from the bottom to the top, within and without, are seven chauhándás, which are crowned with white marble; in its four corners are four minarets finished elegantly and handsomely. Its compound walls are built entirely of red stone. In the front of the gate is a chabútara 80 by 34, and the jilau-khána (or great court-yard where the retinues wait) is 204 dirra by 150 ‡, with a bazar all around the area, the houses finished with red stone, and the shops with bricks and mortar. The length of the east and west of this place is 90 guz, and that of the north and south 30 guz §.

\* For the accommodation of visitors who pay their devotions at the opposite mosque.

† This measure is faulty, from its shortness, and the doubt whether the surface of water or containing walls are meant.

‡ These places are without the great gate; the last result must be rejected; on account of surrounding bazars, it could not be well measured, and I suspect a mistake in the length.

§ These measurements are very ill-defined and uncertain.



"In the side of this market-place pleasant serais were constructed, each in length and breadth 160 guz, containing an inclosure of 160 cells. Further on another chauk\* 150 long by 100 broad occurs, in the midst of which a bazar, and two other serais near it are built, where a great variety of piece goods and different sorts of property from foreign countries are bought and sold; besides these buildings, a great number of merchants have erected numerous houses and habitations of pakka work, so much so that the place has become a large city, by name Moomtasabad. All these royal buildings had taken twelve years to finish under the superintendence of Mukrumut Khan and Mir Abdul Kerim, and their cost amounted to *fifty lacs of rupees*. Thirty villages from those annexed to Akbarabad yielding a juma of 4,000,000 dámas, the product of which sum is one lac of rupees, with the taxes of the shops and serais, amounting to two more lacs of rupees, were, as a pious endowment, assigned for the use of this splendid mausoleum, with intent that the expenditure for making occasional repairs to that sepulchre may be defrayed from this fund, and the balance disbursed in paying the pensioners who receive stipends either annually or monthly, and for providing pottage and bread to the khidmatgárs and devotees of that noble building, as well as to such other necessitous and indigent people as are wont to obtain relief. Any balance which may remain in the fund, after defraying the above-mentioned disbursements, the same is to be at the disposal of the monarch of the times, as the superintendency of the mausoleum rests with him. The Sherif of Mekka deputed Sheikh Abdul Samad Amudi as ambassador with the key of that holy place, as an omen of conquering the seven climes or countries, who arrived on the 8th of Zilhajjah 1052, (17th February, 1643,) and paid his respects to the emperor, when he was honoured with a khilat of 4,000 rupees."

*Treats on the Muti Masjid, the Marble Mosque, in the Fort of Agra.*

"For the sole purpose of seeing the Jamah Masjid, which, by order of his Majesty, was erected in the fort of that city, (meaning Akbarabad,) entirely of white marble, at an expense of three lacs of rupees, and which was completed at the end of the twenty-sixth year of his reign, corresponding with A.H. 1063, (1653) in the space of seven years, the emperor, on Friday the 29th of Zilhajjah, (11th November, 1653,) after the Ghari had struck four Gharis upon do palar, (about two o'clock, P.M.) in a propitious hour got on board of a boat, and proceeded thither, where he arrived on the 16th of Muharram, 1064, (27th November, 1653,) and making the capital a fountain of blessings, and the centre of perpetual happiness, visited the Masjid at the close of the day. This good building, which is the most profitable running on charity performed, is, according to holy writ and commandments, the cause of strengthening faith, and of founding places and houses in Paradise. It consists of three domes, each of which is 9 dirra in diameter, and contains 21 kashwas in 3 lines; there are 6 burjs or towers, each of which has an octangular dome, in diameter

\* This Chauk is not within the principal inclosure. Its dimensions could not be measured, as it is obstructed by rubbish and huts.

4 dirra, and built on pillars. Read a sentence of the Koran to this purport :—  
*'Nobody builds a Masjid to God but he who has faith in God and the resurrection.'*  
 On this sentence is founded the preceding observation.

“The length of this Masjid is 56 dirra, the breadth 21, and the height of its kursf from the marble floor or level is 1 dirra. To the north and south of it are two tenee khánas, each 17 long by  $3\frac{1}{2}$  broad, over the effulgent frontispiece of this good mosque, which, like the second, or true dawn, opening the gates of munificence upon the surface of the earth, and which, ornamenting like the new moon of the 'Id Festival, exhibits in perfect beauty and handsomeness, an inscription of inlaid work, done with black marble, which you may suppose that with musky ink, the pen of the great Artist (meaning God) wrote on the margin of the sun, while it was in the sign of Virgo, the sentence of the Taluk &c. (meaning the beginning of goodness). Its refulgence, as appears on the foreheads of the clean and pure, being envied by the sun and moon, the eyes of these luminaries became diseased with sabal and nákhunah (two disorders by which the human eyes are liable to be affected). The forehead of the righteous, who on the threshold of this rest of angels, obtains serenity like the open forehead of the sun's face, will on no account see in his dream the wrinkle proceeding from sorrow and grief. The hands of supplication on the part of the necessitous, upon being extended towards heaven in this propitious edifice, the gratification of his object, which depends upon prayer, is granted before he moves his lips and tongue. Without doubt the bowls of their silver-like domes, charged with generosity from the intensity of their splendence, like the fountain of the sun, have increased the glory of the nine heavens, which are incrustated with gold. The clearness of the doors and walls of the Mosque, which appear like the water of a transparent looking-glass, on being surveyed fix the pupils of the eyes in amazement; its strong pillars can be likened to those of the nine domes of the heavens, which are ornamented with pearls, (meaning stars,) and in resemblance of those of the firm religion are fixed permanently. They may be further compared from head to foot to the beauties, and said to be like the pillars, of the Muhammadan faith, firm and immutably fixed. In the middle of its sahn, which, from the level of the earth, is raised 11 guz, forming a square of 60 guz, paved with white marble, is built a hauz on a new plan, 10 dirra by  $10\frac{1}{2}$ , with the same stone,  $2\frac{1}{2}$  guz high, like the disk of the sun, waving its splendence in the firmament. In the centre of the hauz is a fountain of the same stone, playing, as if the accepted prayer of the unspotted was ascending towards heaven. Certainly this kaba (meaning the Masjid) is of eternal blessings. On the estimation of its sanctity and delight, conferred by God, it may be considered as the eye of the face of the earth, seeing all the world, and this hauz satisfying the heart from its elegance forms the eyesight of that place of association of eternal happiness (meaning the Masjid). The pupils of the eyes of saints, seeing chastely from its prospect, increasing gladness, derived the recipe of delighting the soul, and the Masjid's paradise-like ground, by having been paved with marble, took herself to the firmament of fixed stars, and thereby laid open spiritual grace.

“In the three angles of the Masjid's area are bright halls opening the heart

made of marble, under which is a two-story apartment, faced outside with red stone. The kuraḍ of the halls from the sahn of the Masjid is  $2\frac{1}{2}$  quarters of a guz high. To the north and south are two gates of high foundation, the centre of each is 4 by 4 with an arched roof, and the dome of white marble, over which on three or four rafters of marble are fixed turrets incrusting with gold. The eastern gate, the inside of which up to the dome is done with marble, is 6 guz by 6, and has dahms of two stories satisfying the heart, over which are bunches of flowers and golden pinnacles. Before each of the three gates are two elegant and pleasing halls. It is hoped that the reward for this acceptable edifice, which is the medium through which the supplicant prays to the bestower of gifts, for the gratification of his desires and wishes, will, in the times of his Majesty, alight on him.

“As the buildings of the hunting seat at Seemoungur, notwithstanding their ill shape, were allowed to get old, Agah Khan, by order of the emperor at the Mauza of Imadpore, on the banks of the river, which is half a kroh or kos on this side of Seemoungur, built a snug abridged edifice, at an expense of 80,000 rupees, and reported its completion to his Majesty. For sport, the king repaired to that place, and experienced great delight and pleasure, remaining there one night. On the 29th of Muharram, at two pahar and two and a half gharis of the day, (10th December, 1653, about one o'clock, P.M.) for the purpose of resting, the emperor set out on his return to the capital of Shahjehanabad, and in the neighbourhood of Agra, the victorious troops and the followers of the royal camp, pitched their tents. On the 3rd his Majesty resumed his journey, and on the 13th halted at Kherazabad, which is three kos distant (from Dehli). On the 14th the royal edifices of the capital were honoured by his Majesty; first he visited the private and public buildings, the Ghasál Khána, and the Jarokah, and afterwards the Daulat Khána, bordering on liberality, which upon all considerations is magnificent in munificence, in increasing delight from its prospects and extended area, in diffusion of good to the soul, and tranquillity in brightening the sight, and in furnishing a place to view from, being the terrestrial paradise, nay the ornament of the sublime paradise: with these particular excellencies, the place was made the residence of the emperor.”

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ART. VI.—*An Account of the Bauddho-Vaishnavas, or Vitthal-Bhaktas of the Dakhan.* By the Rev. J. STEVENSON, D.D.

(Read 6th March, 1841.)

THE Bauddho-Vaishnavas are a sect of Hindus living chiefly within the limits of the Marátha' country, though also scattered over Gujaráth, Central India, and the Carnatic, wherever the Marathas have formed settlements. People usually call them Vitthal-Bhaktas, because they worship Vishnu under the form of Pandurang or Vitthal, whose chief temple is at Pandharpur, on the right bank of the Bhima. They delight in calling themselves Vaishnava Vira, yet since there are others to whom this name is equally applicable, it will not serve for a characteristic epithet. But as the worshippers of Pandurang consider their god to be the ninth or Bauddha Avatár of Vishnu, the term Bauddho-Vaishnavas forms a convenient descriptive name for the sect. In the paper on the intermixture of Buddhism with Brahmanism in the religion of the Hindus of the Dakhan, I made particular mention of Vithobá, as this god is most frequently termed. In that paper, I based my observations mainly on oral communications and popular traditions; since that time, however, having had occasion to pay more attention to the literature of the Vitthal-Bhaktas, there appears enough of interesting matter in their writings to merit a particular notice of their religious opinions and history.

The Bauddho-Vaishnavas are religious eclectics and reformers borrowing from every quarter, and appealing to reason rather than tradition, though the basis of their system be Brahmanical. Like other Vaishnavas, they consider Vishnu to be the eternal Deity, and receive his first eight Avatárs in the same manner as other Hindus. With the Vedántis, they consider the Deity sometimes as Nir-guna, and sometimes as Sa-guna, and speak of Mukti and Sa-yujata, though to these, residence in the immediate presence of Vishnu in Vaidikuntha seems scarcely reckoned inferior. Their metaphysical notions about the nature of spirit seem also derived from the same source. At the same time, they agree in many things with the Rabir-panthis and Ramanandis, though they differ in not having such a perfect organization. In many things also, they resemble the Sangam Reformers of the South, and would agree in more if the name of Siva were only substituted for that of Vishnu. The Bauddho-

Vaishnavas do not much encourage men to separate themselves from society, under the pretence of an entire devotion to religion. A few of them, however, do practise Vairágya, and roam about clothed in reddish-yellow garments, with a flag of the same colour, taking the name of Vithobá; but they have no regular organization, like the Gosains. They bear the common mark of Vaishnavas on their forehead, consisting in two perpendicular white lines.

1. The first grand distinctive principle of the Bauddho-Vaishnavas is what we have already mentioned, their worshipping Vishnu in what they consider his ninth or Bauddha Avatár. There are two slightly differing legendary histories current among them relative to this Avatár, the more common is that contained in the Pandurang Mahátmya, and which is to the following effect. Pundalika Muni, of Brahmanical origin, was the son of virtuous parents, but himself a refractory (Marathi, *Punda*) and undutiful son. On a pilgrimage with his wife and parents to Benares, he wandered from his path when near the holy city, and came to the residence of a sage called Kurkút (Assiduous?). This holy man, though within a short day's journey of a river held so sacred by Hindus, had never yet had time to pay it a visit from attention to his parents. Ganga, Yamuna, and Sarasvati, the three rivers supposed to form the Ganges at Benares, daily repaid the piety he exhibited in neglecting them, by coming enveloped in all the filth contracted by washing away the sins of so many wicked Hindus, and receiving purification at his hermitage. Pundalik, or Pundarik, was by him converted to filial piety, and returned a dutiful son to Pandharpur, a city which from him derives its name and has acquired all its fame. Krishna, by his frolics, had so disgusted his wife Rukminí, that she fled in a huff to Pandharpur, to be altogether beyond sight and hearing of his infidelities. The shepherd god, after visiting almost every other holy place in vain, came here in search of his wife. He was much taken by the devotion of Pundalik to his parents, but did not attract the notice of the saint till he had assumed a luminous appearance (Pandurang), when the saint, who was holding his father's foot in his right hand, and scrubbing it by means of a brick with his left, looked up to see what was the matter. Recognizing the god, he bowed to him, and cast him the brick to sit down on, but still continued holding his father's foot. Well pleased with such filial piety, Vishnu took his station on the brick, whence his Marathi name, Vitthal (he who stands on the brick); although, as to some, this does not sound very dignified, an anagram, descriptive of his character, meaning he who receives the ignorant, has been invented to account for

this appellation. It is to be noted, also, that what is here called a manifestation of Krishna, is in another work, to be quoted immediately, considered as a distinct Avatár of Vishnu. The propitious divinity as usual having asked Pundalik to request a boon, the sage begged him to remain where he was. His request was accordingly granted, and the worship of Vishnu in that form established.

Pundalik and his preceptor, from their attention solely to moral duties, to the utter neglect of religious rites and ceremonies, show themselves to have belonged to the Jain or Buddhist sects, and not to the Brahmanical. The introduction of Vishnu as Pandurang, is an attempt to join the theism of the Brahmans to the morality of their opponents. Vishnu appeared to Pundalik as a Digambara<sup>1</sup>, with his hands resting on his loins, according to the idea of a perfect sage among the Jains and Esoteric Buddhists, rendering it necessary for the Hindus to furnish him with clothing. He is dressed in yellow garments and hence called Pitámbara; and in the fifth chapter of the Mahawanso this is pronounced to be the dress peculiar to the Buddhist priesthood. The colour of Pandurang is declared to be that of gold (सुवर्णं वर्णं); and this is the descriptive name of the colour of Buddha, as quoted from a Buddhist authority by Remusat, in his *Mélanges Asiatiques*. The abode of the Buddhist priests is usually called a *Vihár*; and Pandurang is often said to have his *Vihár* on the banks of the Bhima. Striking coincidences, also, in respect of doctrine, coupled with the local Brahmanical tradition before-mentioned, in addition to all these minute circumstances, can leave no doubt of the connection subsisting between this sect and the genuine Buddhists.

2. The second peculiarity of the Bauddho-Vaishnavas is, that whether Pandurang be a manifestation of Krishna, or an incarnation of Vishnu, still the Bauddha Avatár was undertaken not to deceive and ruin men, as the Puranic writers and Brahmans wickedly pretend, but for the more rational purpose of instructing them, and guiding them in the way of salvation. As I am not aware that this idea of the Bauddha Avatár has ever been noticed by Europeans, as current among any class of Hindus, I shall quote a passage from the Bhakta Vijaya, illustrative of the subject. The Bhakta Vijaya is a poetical history of modern sages and saints, composed in that old Marathi dialect, usually termed Prakrit, by a writer named Mahapati, rather more than a century ago, in imitation of the Hindustani Bhakta Málá of Nabhájí. This author makes Pandurang a new

<sup>1</sup> A Bauddha mendicant—naked.

Avatár of Vishnu, and not a simple manifestation of Krishna. His account is as follows: "After the end of the Sri Krishna Avatár, in the Kali-yug, sacrifices, with other sacred rites, and all benevolence, ceased. The Brahmans abandoned their religious peculiarities, and the Kshatriyas without any remorse plundered and killed the four divisions of Brahmans. The son no more obeyed his father, nor did the disciple serve his master. The husband abandoned his wife; free-born women were made slaves, and daughters sold as maids. Outcast foreigners<sup>1</sup> killed cows. Multitudes got into the habit of speaking falsely, ridiculing holy men, and giving false evidence for true. Through the influence of the Kali-yug, truth became extinct, and crime all prevalent. In these circumstances the very earth quaked. Thereupon in Vaikuntha, Vishnu, after deep reflection, said to his worshippers: The sins committed on earth are unprecedented. Sacrifices are at an end. The Brahmans have left the right road, and through ignorance the world is sunk in a sea of misery. What are your sentiments on this subject? All of them stood silent before him, and said, We are ready to obey your commands. Then he who sports in the sea of milk said to his servants: Having formerly become incarnate, we destroyed the wicked Daitya, and freed the earth of its foes, and now I have taken my seat as the Instructor (Marathi, *Bodhya*). Do ye, therefore, in like manner, all of you become incarnate among men, in all my ancient famous seats. Let Uddhava become incarnate (as Námá) in the forest of Dindir at the Pandhari Kshetra; and, by teaching men to meditate on my name, establish my worship among all classes. At Mathurá, Gokula, and Vrindávana, let Akrúra become incarnate (as Ramdas); and, by teaching men to meditate on my name, establish my worship among all classes. In the eastern regions at Jagannáth, let Vyása (as Jayadeva) become incarnate, and rehearse my works of wonder to the people. Let Valmika at Hastinápur (as Tulsidas), lead all persons to worship me with reverence. Let Suka become incarnate among the Muhammedan<sup>1</sup> tribes (as Kabir<sup>1</sup>). In the Ráma Avatár ye were the monkeys who released Indra and the gods. In the Krishna Avatár ye were the Yádava shepherds, and aided in saving the cows and Brahmans from Kansa and his cruel Daitya. Now, having assumed the Baudha Avatár I sit still and silent, so that without you, who will make known my deeds among the people?"

It is hardly necessary to say, that this representation of Vishnu's

<sup>1</sup> It is the same word मुसलमान which I have translated Muhammedans and outcast foreigners. The names within brackets are all supplied from a succeeding paragraph.

having assumed the character of a religious instructor, and surrounded himself with a multitude of devoted followers, whom he sends abroad on every side, to propagate the principles of piety and morality, is an exact counterpart of the account that is given of Buddha, in the first chapter of the Mahawanso. In the Mahawanso also, Buddha is characteristically described as Susuddha Sambuddha, and in the tenth chapter of the Bhakta Vijaya, Pandurang Vishnu declares that he is Suddha Buddha, in the very terms of the Mahawanso, divested of their extensive particles. Vishnu's sitting silent is also the attitude of a perfect Buddha. It is true, that the author, from whom we have quoted the above description, was not quite sure that he was altogether free from the charge of heterodoxy, but he thus adroitly, in an address to Vishnu, cuts the knot he could not untie: "Neither considering time nor season, thou manifestest thyself to thy worshippers. The Sástras and Puránas say that this is the Bauddha Avatár (and therefore the Deity never manifests himself); nevertheless, occasionally breaking their decree, thou manifestest thyself to thy worshippers." It seems evident, then, that though Pandurang be quite a different personage from the historical Buddha, the idea of his character has been mainly borrowed from the Buddhists.

3. A third peculiarity of the Bauddho-Vaishnavas, in which they agree with the Buddhists and differ from the Brahmans, is, that theoretically they admit of no distinction of caste among true worshippers, and declare that at religious solemnities all castes should eat together. One of them, Kesava, thus expresses himself: "At the great door of the temple, all the castes are formed into one body." More fully to illustrate this important particular, we shall refer to an incident recorded in the life of Námá, which, whether founded on facts, or wholly fabulous, points with sufficient plainness to the moral lesson which the historian of the sect wishes to inculcate. Námá, the chief of the worshippers of Vitthal, made a feast in the temple for the Brahmans. Vishnu himself went round and invited them, and attended on them when they came<sup>1</sup>. After dinner, Vishnu, knowing that the Brahmans required to be paid for eating his dinner, and would not depart till they had received their hire, determined before putting the piece of money into their hands common on such occasions, to show them one of his frolics. Accordingly, he summoned a number of saints from heaven, and

<sup>1</sup> If the whole is not a fable, Pundalik, or, if he was not alive, some one of his descendants, must be considered as personating Vishnu; and as the family was Brahmanical, no objection could be made to such an entertainment.



seated along side of them Námá the tailor, Dryánoba, and his two brothers, outcaste Brahmans, Gora the potter, Narhari the goldsmith, and Sávata the gardener. Vishnu himself sat down at the head of the row, and his wife served the guests. Among the true worshippers, I find Makta Bái, the sister of Dryánoba, and Atmánáyak the Mahár (महार *i. e.* Paria). I do not find, however, that they sat down to dinner on this occasion, with their brethren; the above-mentioned were deemed enough for a first experiment. Indescribable was the astonishment of the Brahmans when they saw Vishnu gathering up the particles of rice Námá had let fall, and chucking them into his own mouth; but though amazed, they were by no means convinced of the propriety of his conduct, and entered into a long altercation with him on the subject, assuring him that the man who abandoned the rules of caste could never be saved. Vishnu defended himself as well as he was able, and told them that they were no true Brahmans, being destitute of simple regard to the deity (Brahmanishta), and full of the pride of worldly distinctions (Dvaitbháva). He moreover assured them that Námá, though by birth a tailor, possessed those characteristics of a true worshipper which they wanted, and was above all others dear to him. Nothing, however, on that occasion would satisfy the Brahmans but that Vishnu should go down to the river, to the pool called Chandra Bág, and there receive purification (Práyaschitta) from their hands, which at last to please them he condescended to do. The same comedy was again repeated in the temple, it is said, with somewhat better success; for though the Brahmans seemed by no means satisfied, they said nothing about purification; though still they would not listen to Vishnu, when he begged them to receive Námá, as they would receive him, into intimate and familiar intercourse. In another part of the history, Ekanath is represented as having been deserted by a company of Brahmans, who came to assist at a feast in honour of the manes of his deceased ancestors, because he had taken food prepared for them and given it to a pious Mahár who in passing had stopped at his door. The presumption of these Brahmans, so says the legend, was effectually put to the blush on the present occasion; for their ancestors, it is asserted, came down and assisted at the ceremony, and partook of the good man's dinner. Still the Bauddho-Vaishnavas, not having been able to persuade the other Hindús to abandon the distinctions of caste, have themselves been forced in practice to submit to them. Nénak and his Sikh followers are the only considerable class of Hindús, who have

been able completely to rise above national prejudices in this particular.

4. The Bauddho-Vaishnavas do not in their writings praise, but on the contrary speak slightly of the Vedas, the Brahmans, visiting other holy places besides Pandharpur, washing and crowning of images with flowers, and other Hindu superstitions. Námá thus describes the folly of leaving Pandharpur to visit holy places: "It is like throwing out new milk and going from door to door to beg rice water, casting away highly valuable musk to fill one's lap with ashes, throwing down a vessel filled with well-cooked rice and going to eat leaves that have fallen from a tree, sending away a swan and fetching home a wild pigeon, casting away diamonds and filling one's lap with sand, leaving fine singing and going to listen to a street brawl, turning out the cow that yields whatever is desired (Kámadhenu) and bringing home a goat." The different rites of the Hindu religion are thus exposed: "They command you to cut down a living sweet basil plant, to crown a lifeless stone. Can worship proceed by contraries? Who knows whether such rites be right or wrong? The propitious time (सुकाल) for the oblation to fire, proves the death-time (काल) of the Banyan and Pipal trees. They tell you to muzzle the ram, and thus perform the moon-plant sacrifice. The four Vedas are said to reside in the Pipal tree, and yet the oblation to fire proves the destruction of that tree. They speak bloodless words, but perform bloody rites. If everything be deity, what is it that is cut down? and who makes the oblation? Do not the ceremonies take place in that one deity, since the sovereign lord is everywhere present?" One of their most caustic epigrams is that in which the Gosains are attacked. It is as follows:—

Brother, you see a holy monk<sup>1</sup>, who all  
 Has left, obeying Heaven's sovereign call.  
 Mayor<sup>1</sup>, build a chapel here,  
 Bring tobacco and strong beer<sup>1</sup>,  
 Daily food for me provide,  
 Let a sister too reside  
 Here to serve me while I stay.  
 Tuka Ram was wont to say,  
 Devotion such as this stands forth confessed  
 To be a Saturnalian mask at best.

<sup>1</sup> The original words translated as above are, respectively, gosávi, patel, and bháng.

Again, in reference to the Vedas, Tuka said, "What I have not found in the Veda, I have found on the brick;" alluding to the legend of Vitthal. Of the Brahmans it is said, "They have got girdles for their loins with small bells that jingle, but they are dumb as regards the utterance of divine knowledge." In a word it is said that, "Ceremonies, holy places, and austerities, are mere gossipry; when compared with celebrating the praises of the deity, they are arrant trifles."

The Vedánti philosophers were accustomed quietly to set aside all these things, as fit only for the ignorant and sensual, but like the Buddhist, Kabir Panthis, and Jangams, the worshippers of Vitthobá turn them to ridicule. The most common superstition among themselves is the doing obeisance to the supposed prints of the feet of sages, one also much practised by the Buddhists.

5. The Bauddho-Vaishnavas assert that there is an interchange of love between the worshipper and the deity. Affection (*Prema*) is often spoken of as an essential ingredient in true worship, and love (*Priti* or *Awad*) is declared to be an affection existing both in the mind of the deity and in the man of piety. Thus Vishnu is introduced as saying to Námá, "The love which I and you bear to one another is great." It is generally, I believe, conceded, that neither among Brahmans nor Buddhists has anything been said on this head, and it seems not improbable that our eclectics may have learnt the doctrine from the Muhammedan Fakirs.

Besides these peculiarities, which distinguish them from other Hindus in the Dakhan, there are other points of religion brought forward with an unusual degree of prominence by the Bauddho-Vaishnavas, especially the importance of taking the name of the deity as an act of religious worship, the power of confident persuasion to effect whatever is desired, and the propriety of forgiving injuries and even repaying evil with good. How far a partial acquaintance with Christianity, as introduced into India by the Portuguese and others, may or may not have tended to give a greater prominence to the last-mentioned particular it would be interesting, although perhaps difficult, to ascertain. The ancient Rishis are in the Brahmanical Scriptures universally represented as cursing all who offended them, and though a better spirit may occasionally be seen animating the Buddhist and later Brahmanical writings, nothing I believe can be found equal to the narrative of Jaya Deva as given by the author of the Bhakta Vijaya; for the sage is represented, not only as forgiving and loading with kindness the wretches who had robbed and maimed him, but after they had

gone to hell for their crimes, as pleading with Vishnu till he had their doom reversed and a residence assigned them in heaven.

I should now give some account of the different authors who have written in support of the Bauddho-Vaishnava tenets, but as this will fall in our way when we take a review of Maratha literature generally, we shall at present content ourselves with glancing at the general history of the sect. The Bauddho-Vaishnavas may be traced up with tolerable certainty to about the beginning or middle of the fourteenth century, when they seem to have had their origin. Sridhar, who in the liberal reign of Akbar translated several Sanskrit works into Maráthi, was a lineal descendant in the tenth generation of Dattatreya, an original disciple of Pundalik, according to a genealogy preserved in the Pandurang Mahátmya. The postscript to the Harí-vijaya, one of his works, gives the date of Saka 1524, or A.D. 1602, for its completion. As these dates in modern works are usually genuine, and there is no reason to doubt the genuineness of the date in question, at the rate of three generations to a hundred years, we are brought back to the commencement of the fourteenth century, as the time when Pundalik flourished, and the worship of Pandurang was instituted. It is rather a singular coincidence that this should be the very period when the Muhammedan General Alla began those incursions which ended in the establishment of the Mussulman authority in the Dakhan, bringing a dark cloud over the whole of the Hindu political horizon. In these events, however, as in many others, we observe a gracious Providence, while it smites with the one hand, bestowing blessings with the other. After the expulsion of the Buddhists and depression of the Jains, everything like religious liberty seems to have been utterly extinguished in Central India, till the Muhammedan invasion, and nothing permitted to lift up its head against the dogmatism and superstitions of the Brahmans. By the destruction of the political power of the supporters of Hinduism, and the persecution of idolators, a greater degree of liberty fell to the lot of those who dissented from the dominant religion on account of its grossness, and scope was given to those original geniuses who could not be confined within the limits of previously existing systems. Accordingly, we find that, even under the Ghaznavi monarchy, in the beginning of the twelfth century, Ramanuja, a Hindu reformer, had begun to collect disciples in the north, and in the 15th, Rámananda and Kabir had raised up a host of opponents to the many deities and superstitions of the Brahmans. It was during the Mohammedan ascendancy that the Bauddho-Vaishnavas flourished in the Dakhan. They borrowed,

as we have seen, from all sects, even from the hated oppressors of their country, all that seemed good in their several systems, in the true eclectic spirit. After, however, the Maratha empire had again fallen into the hands of the Brahmans, no more scope was given to the spirit of reform, and Tuka Ram, their last didactic writer of eminence, was the contemporary of the great Sivaji. The two legendary historical works we have mentioned in the commencement of this paper, are the only productions of a later period.

The worshippers of Vithal belong chiefly to the mercantile and manufacturing classes among the Hindús, who probably in ancient times, as is the case at the present day in Gujarat, were the most affected by the notions of the Jains. Not a few Brahmans notwithstanding, and multitudes from among the cultivator class, range themselves under his banners. The spirit and energy of the sect as reformers, however, seems now nearly extinct, and their character assimilating more and more to that of other idolators. It would seem as if the instrumentality of Europeans were now to be employed to rouse the Hindús again to the display of mental activity. May it prove more effective than the agency to which we have referred, and become the means in the hands of Divine Providence of delivering the Hindú mind from those national chains of caste and bonds of superstition which the noble spirits whose efforts we have been contemplating, were unable with all their energies to burst asunder. Surely, at least, we may hope, that no professing Christian will henceforth ever be found among the defenders or supporters of a system, which all the wiser Hindús, and many even among the Brahmans themselves, have looked on as the original cause of the many evils that afflict their unhappy country.

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ART. VII.—*On the Yellow Colour of the Barberry, and its Uses in the Arts.* By E. SOLLY, Esq.

HAVING learnt, whilst engaged in inquiries amongst manufacturers, and other practical men, that the root of the common Barberry, or *Berberis vulgaris*, was an article of increasing value in the arts, on account of the fine yellow colour which it contains, and that a new source of this dye stuff was rather a desideratum; I was led to inquire in how far the root in question could be advantageously obtained from India.

The most important use to which the colouring matter is applied, is, as I am informed by a gentleman well acquainted with the arts of dyeing, for the purpose of dyeing or staining leather yellow; for which purpose it is found peculiarly well suited.

The colouring principle is found in the bark and wood of the stem, as well as in the root. But the root only has, I believe, been applied in dyeing. In the specimens which I have seen, the colouring matter was in the stem for the most part collected together in the bark, and round the circumference; a considerable portion, also, was deposited round the pith, particularly in the larger stems; whilst the great bulk of the woody fibre intervening, contained very little colour. The root, however, was wholly of a fine yellow colour.

The gentleman before mentioned (and to whom I am indebted for much useful information on this subject) informs me, that the barberry he has seen was generally in large straight pieces, having a somewhat honeycomb cellular structure, and that the colour was generally collected together as it were in masses.

In the larger stems, the proportion of useless woody fibre to the bark and parts yielding colour, is undoubtedly large, but this is quite compensated by the superior richness of colour in the old stems.

According to some experiments of MM. Buchner and Herberger, which are detailed in the *Journal de Pharmacie*, the root of the *Berberis vulgaris* contains rather more than 17 per cent. of yellow colouring matter, which is entirely soluble in hot water, and to which the name of Berberite has been applied. The root, besides this, contains gum and many other substances, but

it is the berberite alone which is available for the purposes of the dyer<sup>1</sup>.

Few natural orders are more widely distributed than the Berberideæ, for they are found in most temperate parts of the globe; species are found in most of the countries of Europe, and extend, as De Candolle has observed, from Candia to Christiania. In Asia, they are, perhaps, even more widely diffused and abundant. The best known varieties of Asiatic barberries are:—

1. *Berberis Sibirica*. A small shrub, found on the lower mountains and rocky hills of Altaic Siberia.
2. *Berberis Sinensis*, which abounds in China, and the northern parts of India.
3. *Berberis Wallichiana*. A native of Nepal.
4. *Berberis floribunda*. This plant, which is common in the whole of the north of India, was formerly thought by Dr. Wallich to be identical with *Berberis aristata*; it is now, however, known to be different.
5. *Berberis Asiatica*. Abundant in Nepal and Kumaon; and according to De Candolle, the *Berberis tinctoria*, which flourishes in the Neelgherries, is identical with this species.
6. *Berberis aristata*, perhaps the most widely diffused of all these species; it abounds in the mountains of Northern India, and extends from the Himalaya mountains to the Neelgherries, and as far south as Nuera Ellia, and Adam's Peak in Ceylon. It has been described in the *Botanical Magazine*, under the name of *Berberis chitra*; it is, however, not the same as the *Chitria* of Nepal, which is another variety of *Berberis*.

Many of these species live for a long series of years, and attain very considerable size; according to Dr. Royle, *Berberis Nepalensis*, a most beautiful species, which inhabits the mountainous districts in the north of India, grows in shady places to the height of 12 feet, at elevations of from 5 to 6,000 feet above the level of the sea; and M. Leschenault de La Tour states, that the *Berberis tinctoria*, which flourishes in the Neelgherries, and is there known by the name of *Jakalow*, attains a height of even 20 feet.

These different species of *Berberis* are employed by the natives in the districts where they abound, in medicine, and as a dye; and the fruit of some are dried and used as an article of food. The late

<sup>1</sup> This colour has been long used in Astrachan and Poland as a dye for leather, and in some parts of Germany for staining wood of a bright yellow colour.

General T. Hardwicke, in his *Narrative of a Journey to Sirinagur*, published in the *Asiatic Researches*, relates that a variety of *Berberis* is abundant in the valley through which the Koa nullah has its course; the fruit of this variety is eaten by the natives, and the wood, which is of a bright yellow colour, is used by them for dyeing; but from the imperfection of their processes the colour so obtained is not permanent. Dr. Royle, in his *Illustrations of the Botany and Natural History of the Himalaya Mountains*, says, when describing the properties and uses of the *Berberideæ*, "The root and wood of one species, the *Berberis aristata*, being of a dark yellow colour, and forming the *Dar Huld* of Persian writers, are used as a dye; and being bitter and a little astringent, are, together with the bark, employed in medicine. The variety of *Berberis* found in the Neelgherries, and which M. Leschenault de La Tour calls *Berberis tinctoria*, from the use to which it has been applied, has by the experiments of M. Vauquelin, been found to be inferior to few woods, for dyeing a yellow colour." There being fortunately preserved in the Museum of this Society, a small quantity of barberry root, which had been sent from Ceylon, together with other specimens of dye woods, &c., I have been enabled to make some experiments with its colouring matter, the result of which proved that it was quite as abundant in the Asiatic as in the European barberry; and on comparing it with some root from Cologne, I found that the colour from the Asiatic was even finer and more brilliant; and from some experiments in dyeing cotton and silk with it, I have no doubt that it will be found, if not superior, at least quite equal, to the very best which has hitherto been obtained from Cologne, Hamburg, and some other European towns.

Experiments should be made as to the relative quantity and quality of colour contained in the old and young trees, and in their wood, bark, and roots respectively, and likewise as to the best time for collecting them.

As the root contains only about 17 per cent. of useful colouring matter, and the remainder consists of woody fibre and other matters not useful to the dyers, it is important to inquire into the possibility of substituting for the wood or root a watery extract of them. This would contain the whole of the colouring matter, and whilst it would present it in a condensed and convenient form, would of course greatly diminish the expense of carriage and freight, and, in consequence, reduce the ultimate cost of the colour.

It is evident that there would be no great difficulty to prevent



this being done, for the natives prepare extracts with great success, and have considerable experience in such operations, as we see from a number of Indian extracts, such as Cutch, and Terra Japonica, which have lately become important articles of trade. But there would be far less difficulty in obtaining the extract of barberry, than that of many other trees, for the natives have long made and used it themselves as a medicine, and it is described in the Asiatic books on *Materia Medica*, under the names of Rusot, Hoozis, and Huzuz. There can therefore be no difficulty in obtaining the article in any quantity which may be required.

It has long been remarked, as a curious circumstance, that Dioscorides has made no mention of the barberry, which from its wide diffusion, and remarkable properties, could hardly escape the attention of the early naturalists. This has, however, been explained by Dr. Royle, who has adduced the most unexceptionable evidence to prove that the *Lycium* of the ancients, or *Λύκιον* of the Greeks, was really identical with the Hoozis of the present day, and was, in fact, an extract of barberry. A very interesting confirmation of this will be found in Avicenna, who, when speaking of *Lycium*, says it is the extract of Al-Feluzahargi, and Dr. Royle, in his paper on *Lycium*, informs us, that the Persian name of Rusot, the extract of barberry, is Feelzurch.

Some little confusion is caused by the term Dar Huld, or yellow wood, being applied to more than one plant; thus, among many others, Playfair, in his translation of the *Talif Sherif*, describes Dar Huld as turmeric, and says, "it is pungent, bitter, hot, and dry," a description applicable to turmeric, but not at all to barberry, which is usually described as bitter, cooling, and slightly astringent: and Dr. Royle informs us, that in the north of India Dar Huld signifies barberry, and that on asking to see the plant yielding Dar Huld and Rusot, species of *Berberis* were pointed out; whilst in the south of India it is only applied to turmeric. ..

ART. VIII.—*Visit from Wadi Tor to Gebel Nakús, جبل ناقوس, or the Mountain of the Bell, Peninsula of Mount Sinai.* By  
LIEUTENANT NEWBOLD.

(Read 5th June, 1841.)

AFTER a night's refreshing bivouac on the sand, under the palm trees of Wadi Tor, we rose at sunrise on the 10th of June, 1840, mounted, and travelled slowly among some low sand hills in a northerly direction, almost parallel with the eastern shore of the Red Sea. As we emerged from the mouth of a small defile, the waters of this sacred gulf burst on our view; the surface marked with annular, crescent-shaped, and irregular blotches of a purplish red, extending as far as the eye could reach. They were curiously contrasted with the beautiful aqua-marine of the water lying over the white coral reefs. This red colour I ascertained to be caused by the subjacent red sandstone, and reddish coral reefs; a similar phenomenon is observed in the straits of Babel-mandeb, and also near Suez; particularly when the rays of the sun fall on the water at a small angle. The low hills of the defile were covered with fragments of brown, red, white, and black chert, many of them coated with a white mealy enduit, flattish and singularly honey-combed. Hillocks of a considerable size were often wholly composed of similar fragments. In a pass to the left, at the foot of some cliffs about fifty feet high, imbedded in a stratum of friable earthy sandstone, we observed a layer of fossil shells. The rock in many places is impregnated with oxide of iron, and contains thin veins of quartz resembling calcedony. From this place, our route lay along the shore of the Red Sea. High sandstone cliffs skirted the right of the path, in regular strata, dipping at an angle of 5°. E. 20 N.; direction S.S.E.

After about two hours' ride we arrived at the foot of a cliff, bulging out from the rest of the range, like an immense circular bastion from a curtain. On its surface were rudely engraved the names of sundry travellers, in Arabic, Greek, and modern European characters.

Here we dismounted; and, leaving our little caravan to the care of the Arab drivers, proceeded on foot towards the extremity of the range, which terminates in the singular bell-shaped hill called *Gebel Nakús*, or the Mountain of the Bell.

By some Arabs, the range is called, after an anchorite who took

up his abode in the vicinity, "*Abu Suwaira*." Ten minutes' walk over sand and stones brought us to the base of *Gebel Nakus*. The apparent height is from 350 to 400 feet. On the western side, which faces towards the Red Sea, is a steep slope of a triangular form extending about eighty feet up the side of the hill, narrow at the top, but widening out as it approaches the bottom. This slope is bounded by low cliffs of sandstone on all sides except the base, and covered with a very fine quartz sand of a light reddish brown colour. The sand varies in depth from a few inches to five or six feet, according to the irregularity of the sandstone rocks which lie beneath it. It has evidently been conveyed to its present position, on the slope of the rock, by the strong prevailing westerly winds. Our Bedouin guide instantly pointed to this sandy slope, as the spot whence issue forth those mysterious Memnonian sounds, to which the mountain owes its appellation; and which the superstitious Arabs, as noticed by Burckhardt, believe to be produced by the bells of a subterraneous convent.

We strained our ears to catch a sound, but in vain: a deep silence, hardly broken by the faint murmurings of the wind, reigned over the singularly dreary and arid wastes around. The Bedouin, having desired us to wait at a rock at the foot of the slope, commenced its ascent, sinking knee-deep in the loose sand that covered it. Presently we heard a faint musical sound resembling the deeper chords of a violoncello at a distance, prolonged, and lightly touched. The Bedouin now descended; and, on my expressing some disappointment at the result, remarked with much phlegm, that the day was not propitious; but that, if we would come on the *Juma*, or Muhammedan Sabbath, we should hear the mountain strains to much greater advantage. My friend, Mr. Shute, of the Inniskillings, and myself, having now obtained some clue to the cause of the sounds, determined to put the guide's veracity to the test, and accordingly commenced the ascent, which we found fatiguing, from the depth and extreme fineness of the sand, and from the intense heat of the sun. Having reached the top, I seated myself at the base of the mural cliffs which crest the summit, and watched the course of the sand we had set in motion, as it passed downwards in undulating and gradually widening lines to the base. The particles of sand, displaced in the lower part of the slope, disturbed those immediately above and below them; and, more slightly, those on their sides; so that the disturbance of the upper layers of sand went on increasing on every side, somewhat resembling the effect produced on the surface of still water by dropping a stone into it.

About two minutes after the sand had been first set in motion, a faint rustling sound, as it rolled down, struck our ears; then the low, deep, distant, musical tone we had first heard, which generally became more and more distinct, and apparently nearer, in successive and fast repeated notes, whose sound partook of those of a deep mellow church or convent bell, and of the vibrations of a stringed instrument. On again disturbing the sand near the summit with my feet, the sounds took up a more treble and prolonged tone, resembling the wild strains of an Æolian harp, but gradually becoming deeper and louder, until at length they rivalled the continued rumbling of distant thunder, and fairly caused the sand on which I sat to tremble in distinct vibrations. This intensity of sound was produced a short interval after the whole surface of the sand had been set in motion from the summit to the base. The sensations imparted by the vibrations were most extraordinary; I can only compare them with those likely to be experienced by a person seated on the body of some enormous stringed instrument while a bow is slowly drawn over its chords. The greatest effect was produced by traversing the sand from right to left, and *vice versa*.

I descended to the base during the greatest intensity of the sounds, and awaited in silence their cessation, which took place with that of the motion of the sand, at the expiration of about a quarter of an hour.

Travellers have frequently attempted the explanation of this curious phenomenon. Some are of opinion that the sounds are caused by the sand's motion over hollow rocks; others imagine them to proceed from the sand falling into cavities; some again suppose them to have their origin in subterranean volcanoes; and a few have thought that similar sounds may be produced by the action of the wind on the thin elastic plates of mica which abound in granite and gneiss. The notion of the Arabs, that the sounds are those of the bells of a subterraneous convent, has doubtless been derived from the idle tales of the monks of Mount Sinai, who declared to me that they had never been heard, until after the destruction of one of their convents near Tor, and the death of the Forty Martyrs.

With regard to the first and third of these opinions, I can only observe, that on a careful examination of the rocks over which the sand rolled, they proved to be of a massive whitish sandstone or grit, of a granular texture, imbedding pebbles of quartz, and entirely free from caverns, or holes of any magnitude. No volcanic rocks, nor traces of extinct volcanoes, were found in the vicinity.

Erratic fragments of porphyry, granite, greenstone, and melaphyre, evidently transported from the lofty ranges of Sinai in the interior, occurred strewn on the surface of the desert not far distant. Were the sounds volcanic, they would be absolutely independent of the motion of the sand, which I shall have occasion to notice as an indispensable condition to their production. The idea of their being caused by sand falling into the cavities of the rocks appears to me to be nearly as satisfactory as the tale of the subterraneous bells. Sand, in falling, produces nothing beyond a dull rustling noise, as may be readily proved by experiment. With regard to the hypothesis of wind acting on the thin and elastic plates of mica, I may remark, that I could not detect a single plate of this mineral in the rocks of the locality, which were all of a sandy and calcareous character. I am not, however, prepared to deny the possibility of sounds being produced, under certain conditions, in the crevices of rocks of granite, gneiss, &c., which abound in mica.

My own ideas as to the cause of the phenomenon of the Mountain of the Bell, coincide in a great measure with those of Lieutenant Wellsted; who has expressed his opinion, that its explanation is intimately connected with the agitation of the sand. The inclination of the slope, down which the sand falls, is nearly that at which sand lies, when poured down in a heap. It rolls down this slope, after having been disturbed, in a westerly direction; the surface of the subjacent sandstone rocks is uneven and step-like. In falling, the sand collects into waves, about an inch or two inches high, resembling those of a thick liquid flowing slowly down an inclined plane. These waves widen out as they approach the base of the slope, and acted upon by the wind, which was at the time of my visit blowing pretty strongly from the N.W., nearly at an angle of  $45^{\circ}$  with the course of the sand, form into festoon-like curves. The sounds produced on first disturbing the sand near the summit of the plane, were, as before remarked, of a treble nature; but gradually deepened, and became graver and louder, as the undulations lengthened on their way downwards to the base; apparently on the principle of the difference of sounds produced by the strings, of different lengths, of a musical instrument.

This effect was increased by the peculiar shape of the plane down which the sand glided, which, from the circumstances of its being narrow at top and broad at the base, admitted of the gradual extension or widening of the waves of sand; or, if I may so express myself, the lengthening of the strings, and the consequent deepening of the strains, of this great natural *Æolian harp*.

That the sounds are caused principally by the motion of the sand is further proved by the perfect stillness of the locality, so long as the sand remains undisturbed; by the gradual increase, diminution, and cessation of the sounds with those of the motion of the sand, and by their being inaudible in wet weather, when the surface is consolidated, as observed by Lieutenant Wellsted. That the action and direction of the wind is a favourable, if not a necessary, condition, is proved by the sounds being faint, according to the testimony of my Bedouin, in [calm weather, and sometimes inaudible; such was probably the case on the occasion of Lieutenant Wellsted's first unsuccessful visit. Further information, however, is desirable on these points; and it would be interesting to visit the locality during the prevalence of an easterly wind. I hardly need remark, that the N.W. winds blow with so much violence occasionally, as to disturb the sand, and thus produce the sounds without the aid of man. It would also be useful to take careful relative measurements of the locality, to ascertain the force and direction of the wind most favourable for producing the sounds, with a view of constructing a model on a small scale, from which similar effects might probably be produced artificially, and the curious question, regarding the possibility of moving lines of loose sand producing, under any circumstances, musical sounds, decided beyond the shadow of a doubt. It is not a little singular that *Gebel Nakus* should be, as far as I am aware, the only known spot on the globe where the necessary conditions exist for producing those remarkable sounds, although I have seen several localities in Arabia, Egypt, and Spain, where loose sand has been accumulated on the sides of rocks in an apparently similar manner. But it must be remarked at the same time, that opportunity did not admit of a careful comparative examination of these localities.

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*A short notice of a phenomenon apparently depending on similar causes to those which produced the sounds described in the foregoing paper, was inserted by Captain (now) Sir Alexander Burnes, in the Bengal Asiatic Journal of April, 1838. As few copies of that excellent periodical are to be found in England, it has been thought that an extract from Sir Alexander's paper might be interesting.—EDITOR.*

“In the vicinity of *Cabul* there is a phenomenon similar to what occurs at *Jabal Nakous*, or the Sounding Mountain, near *Tor*, in the Red Sea. It is called *Reg-Ruwan*, or the Moving Sand, and

is thus described by the Emperor **BABER**. 'Between these plains there is a small hill in which there is a line of sandy ground, reaching from the top to the bottom of the hill. They called it *Khodja Reg-Ruwan*. They say that in the summer season the sound of drums and nagarets issues from this sand.' The place has been seldom visited, being in the *Kohistan*, or troubled part of the country; but the power of the present Chief of *Cabul* has subdued the rebellious tribes near, and an opportunity was thus afforded us of visiting it, which we did in October last.

"The description of **BABER** above given, though it appears marvellous, is accurate. *Reg-Ruwan* is about forty miles north of *Cabul* towards *Hindu Kosh*, and near the base of the mountains. Two ridges of hills, detached from the rest, run in, and meet each other; at the apex of this a sheet of sand, as pure as that on the sea shore, with a slope of about forty degrees, forms the face of a hill to its summit, which is about 400 feet high. When this sand is set in motion by a body of people, who slide down it, a sound is emitted. On the first trial we distinctly heard two loud, hollow sounds, such as would be given by a large drum. On two subsequent attempts we heard nothing, so that, perhaps, the sand requires to be for a time settled before the curiosity is displayed. There is an echo in the place, and the inhabitants have a belief that the sounds are only heard on Friday, when the saint of *Reg-Ruwan*, who is interred hard by, permits! The locality of the sand is remarkable, there being none other in the neighbourhood. *Reg-Ruwan* faces the south, but the wind of *Purwan* (*badi Purwan*) blows from the north for the greater part of the year, and has probably deposited it by an eddy. Such is the violence of this wind, that all the trees in the neighbourhood bend to the south; and a field, after a few years, requires to be recleared of the pebbles and stones which the loss of soil lays bare. The mountains here are generally composed of granite or mica, but at *Reg-Ruwan* we had sand-stone, lime, slats, and quartz."

ART. IX.—*Observations on the Maráthí Language.* By the  
REV. DR. STEVENSON.

(Read 2nd January, 1841.)

THE study of the vernacular languages of India is every day becoming a subject of more and more importance. The Government, yielding to the voice of reason, has decreed, that in every province the language of the people shall be the language of their rulers, Christians and philanthropists, in every district of the country, are preparing books and communicating the elements of learning to the native inhabitants, in their own dialects. Grammars and dictionaries of the principal vernacular tongues, exist either printed or in manuscript; and the speech of the common people instead of being despised as a jargon, is every where cultivated as a language.

Circumstances having led me to pay particular attention to the Maráthí, I am desirous of laying before the Society a few observations I have made on the nature and peculiarities of this language, and its connection with the other languages of India.

I still remember the interest and delight with which I first read Colebrooke's essay on the Sanskrit and Prakrit languages; and I have lately, also, been much pleased with Mr. Campbell's essay on the Telugu, prefixed to his grammar of that language. I should wish to see similar essays on all the languages of India, and therefore think it but right to furnish to others at a distance, through the medium of the Asiatic Society, a few remarks on the language which I have made my principal study.

It was natural for those who had studied the Sanskrit, and were chiefly acquainted with the Hindústání and Bengálí languages, to suppose that these, and all the other languages of Hindústán, were but corruptions of the parent tongue, which was used by Vyasa and Manu in giving laws and a religion to India. And even when learned Europeans in the north became acquainted with the natives of Southern India, and had got them to reduce their vernacular dialects to writing, the writers, being Brahmans, used almost wholly words of Sanskrit origin, to the exclusion of many of a class entirely different, which were far more familiar to their countrymen. Even Mr. Colebrooke, while admitting in one part of his essay that about one-tenth of the words in the Hindí language could not be



referred to a Sanskrit origin, still expresses a doubt whether, after all, the ground-work of the language were entirely different.

Mr. Campbell objects to the Telugu, Kannadí, and Tamil, being considered merely corruptions of the Sanskrit. He considers them with the Malayalim, to be sister dialects, radically different from the language of the Vedas; and the Sanskrit intermixture, of the same nature as the Latin which has intermingled with the Saxon ground-work of the English. The same I conceive, though in a less degree, to be the case with the Maráthí; and also, most probably, with the Hindú, Bengalí, and all the languages of Northern India. The Sanskrit proportion becomes less and less as we advance southward, and is least in the Tamil; just as the Latin proportion of the modern languages of Europe decreases as we advance northward.

In the Maráthí language, the analysis of twelve pages taken separately throughout Molesworth's dictionary, gives about fifty thousand words, of which about ten thousand may be reckoned primitives, and the rest derived from these. Of the primitives, about one-half are Sanskrit, either entirely or almost in a state of purity. And of the remaining five thousand, two more are still Sanskrit, though considerably corrupted; one thousand are Persian and Arabic; and two thousand, or one-fifth of the whole, unconnected with any of those languages, but belonging to what I conceive to have been the language of the aborigines of India. Many of the words of this class agree with the Telugu, Kannadí, and Tamil, and are also to be traced in the Hindú and Gujaráthí, where there is not the slightest connection with the Sanskrit.

It is a singular circumstance connected with this view of the subject, that the peculiar language of the principal tribe of Ramúsí, who inhabit the hilly districts in the Maráthí country, agrees remarkably with the Telugu. Captain Mc Intosh, in his history of that tribe, accounts for this by saying, that probably they formerly emigrated from Telingana. He confesses, however, that he has no authority to say so from their traditions, though another tribe that spoke a language somewhat different, had preserved among them a tradition of having emigrated from the Carnatic.

To illustrate the connection between the southern and northern languages of India, in reference to aboriginal words, and to show what place the Maráthí holds among its sister dialects, I have thought it better to bring forward a number of successive vocables, than to pick and choose throughout the language. I have analysed, then, the first five pages of the letter ऋ in Molesworth's Maráthí dictionary, and now submit the result of that analysis.

Half the words are Sanskrit, or formatives from these, or corruptions of Sanskrit words. By Sanskrit, I mean such words as कंकण "a bracelet," which is pronounced in Maráthí as in its original language, except that the final ञ is omitted as is usual.

Sanskrit corruptions are such as कंगणी derived from the above; कड "a side," corrupted from कटि; and कटये "to be killed," corrupted from कृत् (to cut), which in Tamil becomes क्तु.

Two words belong to the foreign auxiliaries of the Hindústání. The rest are aboriginal words, to the particular analysis of which we now proceed.

1. कंकर (Kangkara), used in Sanskrit, but translated "(1) vile, bad; (2) butter-milk mixed with water."

In Hindí, it means "a nodule of lime-stone."

In Gujaráthí, "a pebble."

In Maráthí, (1) "a pebble;" (2) "gravel."

In Telugu, "gravel." In Bengálí, "gravel."

Here we have a striking agreement, or, at least, close analogy among the meanings of this word in the vernacular languages, while nothing but the wildest fancy could point out any connection between one of these significations, and that which the word bears in Sanskrit.

2. कंकोल "an undetermined plant;" relative to which, till determined, it is impossible to say whether it be from the Sanskrit or not.

3. कंगणे (kangane), "to be reduced and enfeebled by sickness." In Kannadí, kangedu means, "to become lean;" hence the Hindí कंगल "poor, destitute;" and कंगली "destitution." The Telugu word for the same thing, is kakkarili, by a change of some of the allied letters.

4. कच (kach), 1. "grittiness, roughness;" hence, probably, the Telugu kache, "waste land," and the Hindí कच्चा kachcha, "rough, unfinished." 2. "A yielding or falling back;" hence, Hindí and Maráthí कचणे (kachane), "to slip or give way." 3. "A state of crowdedness;" hence the Telugu word gachchupachchagu, "to throw into disorder." Hence, also, perhaps, कचेरी "a hall of audience."

5. कचमणे (kachamane), "to finger boiled rice;" hence Telugu, kachamu, "a plate from which to eat boiled rice." Hence, also

6. कचोलें (kacholen), of the same meaning, with the termination varied.

7. कजेल (kajel), "a particular move in the Indian game of chess." This probably is corrupted, and should have been कचेल; as काच "glass" is vulgarly corrupted from कच. The Telugu word, meaning the same thing, is kachchadmu, from kachu<sup>1</sup>, to play at dice or chess.

8. कचकोल (kachkol), 1. "a beggar's pitcher," as in Hindí; 2. "bits of glass ornament," derived, probably, from the Telugu word kachchulu, "glittering."

9. कट (kat), "combination," from the Telugu katu, "a tie." Hence, also, Hindí कटाव, "a combination."

10. कटक (katkat), "wrangling, brawling." The same in Gujaráthí. In Hindí it is kachkach, [all apparently from the Tamil root kattu, "to call aloud." Hence, also, katakata, in Telugu, and katakatá, in Maráthí poetry, meaning the exclamation of grief, "alas! alas!"]

11. कडा (kathada), "a railing." Hindí कडर, Gujaráthí कडेरो, Telugu कडकडालु; some say from काड (kashta), "wood," Sanskrit, but more probably from the Tamil kadi, "to guard." Yet this may be a corruption from the Sanskrit.

12. कंटाल (kantala), "disgust;" much more probably from the Telugu कंटु (kantu), a root meaning "antipathy, hatred," than from the Sanskrit कश (kashta), "toil."

13. कंठाल (kanthal), "a packsaddle;" Gujaráthí कंठालो, Telugu, kanthalma.

I may observe in passing, that कडपु Hindí, means "a market suburbs;" and कडपु Telugu, "a building, an edifice."

14. कडकड (kadkad), "a grinding, crashing noise;" Telugu, ककक. This, in Hindí, is applied to the noise of laughter.

15. कडडड (kadadad), "the sound of peals of thunder;" कडाड is also used. The Hindí word is, कडाकड (kadákad), probably all from the Telugu root kadaru, "to call aloud."

<sup>1</sup> Many of these words, both in Telugu and Maráthí, have the च pronounced like ts, but in this paper I prefer to write for it uniformly, ch.

I have now run over every word in the five pages not evidently of Sanskrit origin, or derived from these words themselves; and however I may have failed in one or two instances to establish the connection, I think it must be evident to every candid judge, that I have shown in the majority of instances, that a very intimate relation exists between the Hindí, Maráthí, and Telugu; the first of these belonging to the great northern family, and the last to the southern family of Indian vernacular languages; evidencing their agreement in regard to those aboriginal words which are entirely foreign to the sacred languages of the Brahmans.

I have now to make a few remarks on the grammatical structure of the Maráthí language, in its connection with the other languages of India.

It cannot fail to strike the most inattentive student of the spoken dialects of India, that they proceed in the conjugation of the verbs chiefly by means of auxiliaries. The Hindí and Gujaráthí have, properly speaking, no present tense except that of the verb to be, which, joined to a present participle, serves for the present indicative of all the verbs in the language. This Mr. Campbell asserts to be the case also with the Telugu, though by the laws of euphony it is somewhat disguised. Such a present indicative is also in frequent use in Maráthí, though there is also another. Of all these languages it may, however, be asserted, that about one-half of the tenses are made up of participles joined to auxiliary verbs. It is quite the contrary with the Sanskrit, which, like the Greek and Latin, proceeds on the system of having different terminations generally for the different tenses. There, must, therefore, in India, have been some element, like the Gothic and other Germanic tongues in Europe, to produce this modification of languages, the greater part of whose vocables are Sanskrit; but where will either history or tradition allow us to look for any such modifying cause, except in an aboriginal language, following a different course in this respect from the Sanskrit. In the Maráthí, and spoken languages generally, the second person present imperative is the root of the verb, as in English.

Verbs in all these languages have, properly speaking, no passive voice. A few verbs, it is true, may by the help of जाणे (jānen), to go, in Maráthí, and the corresponding verb in Hindí and Gujaráthí, and पडु to fall, in the southern languages above mentioned, be squeezed into a passive form, but it is an unnatural form, and is never used but by Europeans, or natives when imitating

them, or translating from another language where a passive exists. In Maráthí, no native would say मारिला जातो (márilá játo), I go beat; but would thus express himself, मार खातो (már kháto), I eat blows.

It is a characteristic of the southern languages of India, that they can be conjugated so as to negate the idea of the root as well as to affirm it. But the most singular part of this negative conjugation is, that no negative particle appears. The Maráthí has such a conjugation, but the negative sign न (na) never disappears. Probably in those languages it once existed, but has been dropped from interfering with the sign of the first person, which is also न (na), or for some other reason unknown. In Maráthí, "don't strike," is मारू (Máru) नको (nako); this in Telugu is katta ka, the nako of the Maráthí being, on the above hypothesis, contracted to ka. Náku, in Kannadí, means "it is enough;" and when used by itself in Maráthí, nako means, "it is not wanted."

Nouns, again, in all the modern languages of India, instead of the seven or eight cases of the Sanskrit, have never more than three or four at the utmost; the place of the others being supplied by postpositions, separable particles affixed to the nouns, serving the same purpose as prepositions in the modern languages of Europe. This is the case, at least, in the Hindí, Gujaráthí, Maráthí, Telugu, Kannadí, and Tamil.

As an illustration of agreement in minute particulars, I may mention that the sign of the dative in Hindí, is को (ko), in Kannadí क्क (kka), in Telugu कु (ku), in Tamil क्कु (kku). What connection has this termination with any Sanskrit sign of the dative, and yet it is substantially one in four different languages, leading us almost without interruption from Cape Comorin to the Himalaya mountains.

ने (ne) in Gujaráthí, ना (ná) in Maráthí, नु (nu) in Telugu, and न्नु (nnu) in Kannadí, are frequent signs of the objective case.

The length to which these comparisons have extended, compel me to omit some of the remarks I intended to have made on the peculiarities of the language; and I am even afraid I may have left an impression that the Maráthí is not so much indebted to the Sanskrit as it really is. Of the names of the common relations of life, the principal that does not come from that source, is बाप (báp), "a father," used in Hindí, Gujaráthí, and Bengali. The

Telugu word is बाबु (bábu), but probably the Kannadí अप्प (appa) is the oldest form, approaching to the abba of the Aramean languages. पिता the Sanskrit word is often used by Brahmans. अयी "a mother," is a corruption of असा, as from भूनी the Maráthas form भूयी.

Of the parts of the body, most, also, may be derived from the Sanskrit, except दोकें (doken), "the head," which is an aboriginal word, and probably connected with the Telugu dokka, "the shell of a cocoa-nut."

The Persian and Arabic words in the language are expressive of the laws, religion, and arts introduced by the Mahomedans into India.

The Maráthí language abounds with what have been called imitative words, of which we have already had some specimens. If any one think that these imitatives form no part of the language, or may be formed from the sound of which they are said to be imitative, at pleasure, according to the impression on the ear of the hearer, he will be much mistaken. The natives of India have agreed, that the sound emitted by a certain rude smoking machine, is gúr-gúr, hence their name for it is गुर्गुरी gurgurí; while the English soldier has chosen to think that hubble-bubble is a more appropriate word for the noise made by the air in passing through the water.

Some of these formations as कलकल, "hubbub," are Sanskrit, but the greater part are not. They are constituent parts of the language, however, and are used without any idea of their being vulgar or ridiculous.

The Maráthí is a very expressive language, and with the sources to draw on we have already mentioned, is capable of being applied to all the purposes of science and literature. It is reckoned rather harsh. None of the Sanskrit letters are softened down as in Híndí and Gujaráthí. The harsh palatal *l*, common both to the Vedas and the aboriginal language of India abounds, though it be dropped even in the more recent Sanskrit. There are variations in the language which amount almost to different dialects, but they are hardly of sufficient importance to merit any particular notice here.

The Brahmans in the Maráthí country have kept up the use of the Devanágari more than any of their neighbours. They never write Sanskrit in any other character, and many Maráthí books are written in it.

They have, however, another character for the transaction of business and epistolary correspondence: it is called the Mod (मोड), meaning the broken character, an exact translation of the Persian Shikasta. This word is sometimes vulgarly pronounced Mud, but the idea of the Muds being a tribe, from whence the name originated, as supposed by Mr. Colebrooke, is scouted entirely by all the natives. They ascribe the origin of the Mod character to Hemád Pant (हेमाड पंत), who had charge of the hill forts in the Dekkan sometime during the Mahomedan Government. It is said, that while on a visit to Ceylon, he administered medicine to a holy man, who gave him this with other things as a boon. Hence the Brahmans call it the Paishach Lipi (पैशाच लिपि), or character of the demons. The truth is, that it is nothing but the Nagari rounded a little, and one or two letters borrowed from the alphabets of the south of India to form a character better fitted for writing with despatch than the Nagari. Any one, indeed, who will compare all the alphabets of India together, and especially with the oldest forms of letters existing in the cave inscriptions, will soon become convinced that all the varied modes of expressing their common sounds are derived from one original character. Of the causes giving rise to the variations, the custom in the south of writing on palm-leaves with an iron stylus, while in the north they write with a reed on paper, is the principal. It is singular enough that the cave letter (Λ) for ऋ, remains unaltered in the Telugu and Kannadí.

I have only further to add, that the district in which the Maráthí language is spoken, in more or less purity, extends along Malabar coast from Goa northward to Damaun, where it yields to the Gujaráthí. The language extends eastward to about Hyderabad, where it yields to the Telugu. In the interior it meets the Kannadí language at Solapur, and extends northward to about Nagpur. The population speaking Maráthí is estimated at about eight or ten millions.

Having brought to a close these remarks on the language, I trust, at some future period, to be able to lay before the Society some observations on the literature of the inhabitants of the Maráthí country.

ART. X.—*Letter from J. M. HEATH, ESQ., on the Introduction of the American Plough into India.*

THE following paper contains a description, with drawings annexed, of a plough, recently introduced from America into India, and which promises to prove of the greatest benefit to agriculture in that country.

In the year 1837, the Managing Directors of the Indian Iron and Steel Company, received a communication from Captain Foster, Superintendent of Roads, &c., at Poonah, to inquire whether such ploughs could be made up at the Porto Novo Iron Works, and on being informed that the ploughs could be made for a certain price, an order was received for the iron work of 400 ploughs, for the use of the Bombay Government. During the execution of this order, a few of the ploughs were sent to gentlemen in the revenue line under the Madras Presidency, who were desirous to give them a trial: and from their reports of their performance to the Revenue Board at Madras, an order was sent to Porto Novo in September last, for upwards of 800 of these ploughs, for the purpose of being distributed to each of the Collectors under the Madras Presidency: this order, I have recently heard, has been completed.

The superiority of the performance of this plough over that of the ploughs in use in India, was so manifest, that in almost all instances, when it was exhibited to the cultivators, they expressed a strong desire to procure the plough: and an application was made to the Porto Novo Iron Works, before I left India, on the part of several native gentlemen who possessed estates in the Madras territories, for a supply of these ploughs, for the purpose of distribution among their tenants.

The weight of the cast and wrought-iron work of one of these ploughs, is about 60 lbs.; the cost at which they were supplied at Porto Novo, was 10 rupees, or about 1*l.* each; they can be worked in light soil by a pair of bullocks or buffaloes; but when the cattle are small, two pair will be required; with two pair of bullocks, one of these ploughs will do more work in turning up the soil in an efficient manner, than double the number of cattle could do, in the same time, with the native plough. This plough is



only suitable for the cultivation of dry grain soils; it is quite unfit for ploughing rice land.

#### DESCRIPTION.

This plough consists of four principal parts, which, for facility of reference, shall be called the mould-board, the shoe, the side-piece, and the curved bar.

The following explanations and a reference to the accompanying figures, will explain the meaning of these terms.

Nos. 1 and 2,—Show the appearance of the plough when put together; they are not reduced from actual measurements, but sketched merely for the purpose of conveying a more clear idea than could be done by description, of the different parts of the plough and their modes of connection.

No. 3,—Is a plan of the cast-iron parts, showing the different bolts, &c. This and the following figures are drawn upon the scale of two inches to a foot.

No. 4,—Is a section of the mould-board and shoe, perpendicular to the exterior edge of the latter, and showing their curve and mode of junction.

No. 5,—Is the furrow or outer side-elevation of the mould-board, showing the receptacle for the shoe and different bolt-holes.

Nos. 6 and 7,—Are horizontal and perpendicular sections of the same, which a reference to the figures will explain.

No. 8,—Is the reverse or inner side-elevation of the mould-board, exhibiting the projection for securing the side piece and curved-bar; this is effected by two bolts passing through the three pieces and secured by nuts inside.

No. 9,—Is a section of this projecting piece explained by the letters on the figure.

No. 10,—Is an elevation of the side piece, showing the position of the bolt-holes, and strengthening of lower part by an additional thickness of metal.

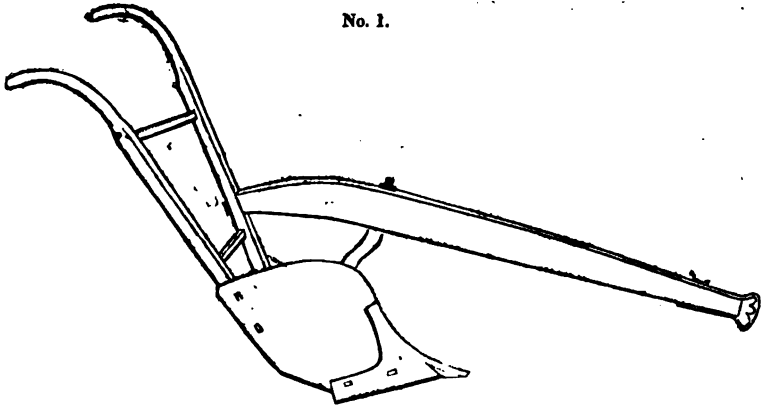
No. 11 and 12,—Are horizontal and perpendicular sections of the above, explained by the letters.

No. 13,—Inner side elevation of the shoe, with the bolts and nuts for securing it to mould-board.

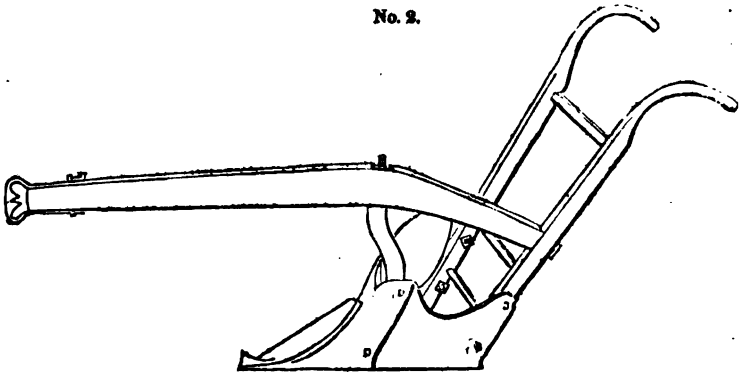
No. 14,—Side elevation of the curved-bar and position of bolt-holes.

No. 15,—Front elevation of ditto.

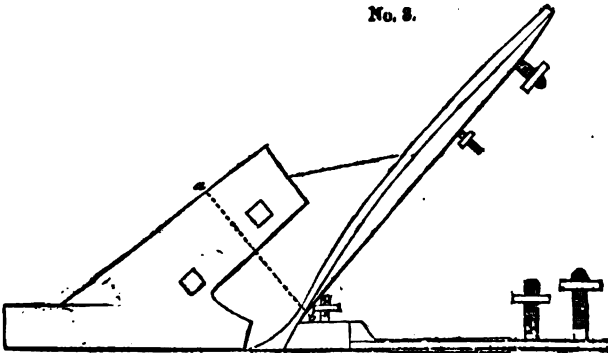
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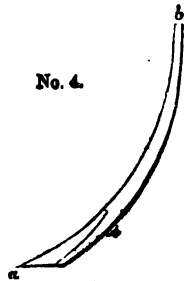
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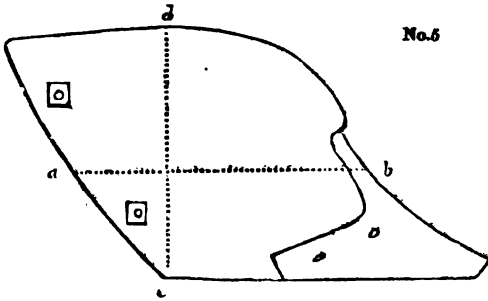


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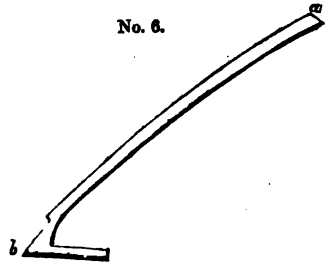


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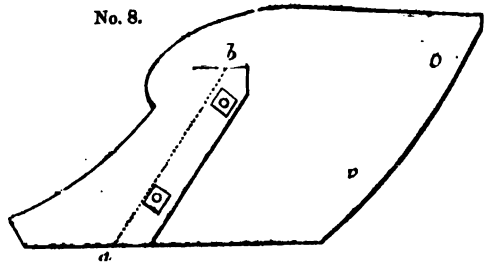
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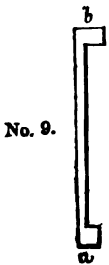
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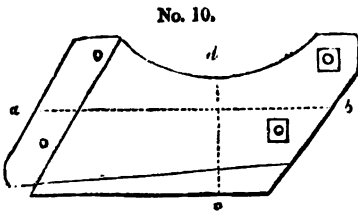
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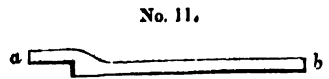
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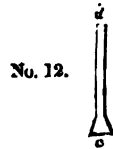
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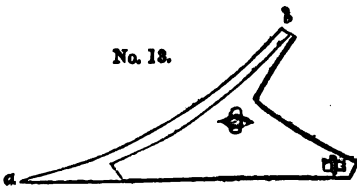
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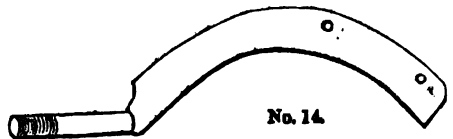
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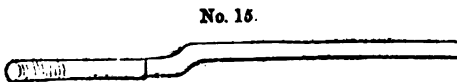
No. 12.



No. 13.



No. 14.



No. 15.

## REMARKS.

The whole of the above pieces are made of cast-iron, with the exception of the curved-bar. The mould-board is a plate of cast-iron one-fourth of an inch thick at its upper edge, and gradually increasing to one-third or two-fifths of an inch at its lower. In the angle formed by the projecting piece on its inner side, the thickness of metal is not less than an inch.

The shoe (fig. 13,) is also a plate of cast-iron one-fourth of an inch thick, with a toe of solid metal projecting beyond it, of an inch in thickness in its greatest part. Its cutting edge (*a* 6, fig. 13,) is sharpened by a slight ridge of metal not shown in the figure.

The side piece is about one-fourth of an inch thick except at bottom, where it is strengthened by an additional thickness of metal.

The curved-bar ought to be of the best malleable iron, as in dragging the plough, it bears the principal strain, and is, consequently most liable to fracture. Its curve is adjusted so as to correspond exactly with the inner angle of the mould-board, in which it is placed. By this contrivance its strength is greatly increased, as will be evident on reflecting that the pressure, instead of being on a single point, is distributed along the whole portion of the curve in contact; it is, in fact, a hook by which the plough is dragged along, and the strain, instead of being transverse, is thus brought more nearly in the line of the axis of the bar, which position would, of course, be the most favourable for resistance to fracture.

This bar is two inches in depth by half an inch in thickness, and is terminated by a bolt and screw for attaching it to the pole of the plough. The bar is bent a little towards the upper end, to enable the bolt to pass perpendicularly through the axis of the pole. This bolt, to be of the requisite strength, should not be less than three-fourths of an inch in diameter; when bolted into the plough, the upper end or termination of the flat part of the bar should be sixteen to sixteen and a half inches in perpendicular height above the sole of the plough. There are eight square-headed screw-bolts fitted with nuts required for this plough, their diameter should be half an inch, and the thread of the screw the same in all; their lengths vary from two to three and a half inches.

The above is a description of an American plough, which, from a trial made in the Dekhan, promises to become of extensive use

in Indian agriculture; and should the expense at which they can be made up in this country be found sufficiently moderate, a large number would probably be required, and in that event, the *entire plough*, as a pattern for the casting, could be sent round to Madras.

It is understood that the prime cost of the plough in America, is, for the larger, 7 or 8 dollars, and for the smaller, 5 dollars. This, however, of course, includes the wood work. A gentleman well acquainted with the subject is of opinion, that the wholesale cost of the iron part in England would be considerably below the American prices.

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**ART. XI.—*Report on the Iron of Kattywar, its Comparative Value with British Metal, the Mines, and Mode of Smelting the Ore.* By CAPTAIN LEGRAND JACOB.**

(Read December 5, 1840.)

IRON ore is found chiefly in the north-west quarter of the Peninsula. The result of my inquiries gives the number of six foundries working at one time, during the fair season, throughout the province, and two or three more occasionally. The extent to which the metal is manufactured will be given in the body of this Report. I have visited only two foundries, those at Ranawao and Ranpoor in the Ranas and Jam's Talookas respectively; but I understand a description of one applies alike to all, their construction being rude and simple.

For the Ranawao establishment, the ore is found near the villages of Bukulla, Palikhra, and Vissawarra<sup>1</sup>. The facility of obtaining charcoal from the Barda hills seems the only motive for fixing the foundry both there and at Ranpoor. The mineral riches of this range, or rather clump of hills, have never been developed: the iron-mines now worked are at some distance from the hills, in veins that owe their upheavement to some separate shock from the parent of the Barda cluster; and the country between the Barda and the sea, by the ferruginous nature of the soil, would seem to be rich in this ore.

The mines above specified are mere circular pits sunk into the ground to the depth of from five to twenty feet, and when a sufficiently rich portion of the vein has being gained, that portion is excavated as far as pickaxe, arm, and shovel can reach. This rude method of working the mines is, I understand, similar to that practised in the Dekhan; on being handed up to the top the ore is sifted, washed, and then despatched to the foundry in carts, or on bullocks and donkeys.

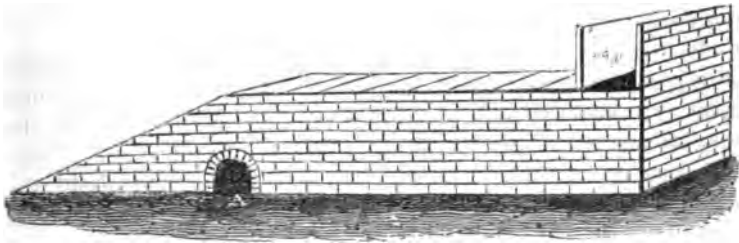
At Bukulla, the ore is met with in a ridge elevated from the general level about twenty feet; at Palikhra, in the plain close to a ridge, perhaps thirty feet high; but at Vissawarra, in the open

<sup>1</sup> Specimens from all three mines have been forwarded to the Secretary, Geographical Society, Bombay.

country, without any external indications ; and its discovery was probably accidental by the sinking of a well for irrigation.

The smelting process is very simple : an oblong shed gives a scanty shelter to the workmen during the dry season, and during the monsoon the manufacture is suspended ; the ground inside is dug away in the centre, to give room for two furnaces, which occupy the ends of the shed ; they are long and narrow, to give good draught ; and the masonry, or brick-work, is lined with clay, to keep in the heat ; the opening for the bellows is stopped by a bit of plank protected with clay, into which fits a pipe connecting the nozzles of the two pairs of bellows ; these again are stopped afresh with clay, each time the work commences.

The following rough view will illustrate the explanation ; it is on the scale of half an inch to a foot, on the model of the Ranpoor furnace.



Opposite aperture  $\Delta$  is another of like dimensions : one admits the working of the bellows, the other the escape of the scoria, for which purpose a small door is occasionally opened. The space in the furnace between the two apertures is filled with charcoal, in which beds are hollowed out for the ore, and then a fresh covering of charcoal is thrown over the whole ; the ore being so deposited as to be on each side of the streams of air.

The bellows, two pair to each furnace, are formed of bullock hides sewed round bamboo hoops in vertical rings, and worked alternately by downward pressure ; the person closing the mouth of the sack as he weighs upon it with his chest and arms ; they throw a powerful stream of air into the furnace : in ten minutes after a small piece of lighted coal had been exposed to its action, the whole mass of ore was so thoroughly heated, that the scoria commenced exuding.

This furnace holds at a time a little more than seven Bombay muns of ore, which take from six to eight hours to smelt. The

mass is then taken out for assistant workmen to handle, and the furnace replenished. The day's work is not considered over until this process be gone through twice.

The second furnace is built up at the mouth, but otherwise resembles the first; over this the head Lohar or Smith presides. The use the workmen make of their feet would astonish a Birmingham artisan; to protect them from the scorching heat, their sandals, or rather shoes, are armed with an extra sole of ample dimensions; and during the process of manipulation, it would be difficult to say whether feet or hands are most brought into play; this applies only to the head workman, who is seated throughout the process. After the ore has gone through the first furnace, and been again heated in the next, it is split into equal portions by the wedge; and when fractured, the pieces are wrought into small bars, at the average size of four to a local mun<sup>1</sup>: the metal is, of course, freed from much dross by the repeated action of fire during its process through the second furnace. The iron is then ready for the market: my observations furnished me with the average of forty per cent. of iron thus obtained from the ore. Two species are manufactured: the cheapest, called *chontia*, is chiefly the iron broken into fragments by the wedge, without further manipulation than is necessary to give it some degree of shape, or it is the produce of inferior ore, and is thus sold for five cowries the mun (local); the best sort, called *marka*, fetches eight cowries.

The Ranpoor workmen informed me that the Palikhra ore, which supplied its rival foundry, was considered better than their own; the ore of Vissawarra, (a village close to Palikhra,) recently found out, is still better, and generally goes by the same name. Ranpoor is supplied from Ran, eighteen kos distant; the greater expense of carriage in the Jam's district must therefore tell in favour of the Rana's manufacture. The intelligent head Lohar at Ranpoor informed me, that with a westerly wind, they often obtained only five muns of iron a-day, and with an easterly one, seven. I was at first disposed to refer this anomaly to a difference of draught in the chimney as the east or west wind blew; but it may arise from the east wind being exceedingly dry, whilst the west, being from the sea, is moist. The Lohar accounted for it in an amusing manner. Metals, he said, were like mortals, and some climates agreed with

<sup>1</sup> Averaging about twenty-six Bombay rupees to the seer, and forty seers to the mun. A Ranpoor mun is equivalent to Bombay seer, rupees 26-26½.



them better than others ; he further informed me, that they made more iron during the cold than during the hot weather, which he attributed to the men having their nerves better braced up for work ; but this may be accounted for by the previous explanation, the east wind prevailing during the cold season, and west during the hot, though this cause cannot account for so great a difference as that mentioned by the Lohar.

The following table shows the profit accruing to the proprietor of one foundry :—

<i>Dr.</i>	<i>Cowries.</i>
Daily expense of 10 workmen, at an average rate of a cowrie each ...	10
15 muns of ore per day, or 8 baskets, at a cowrie each ... ..	8
12 baskets of charcoal, at a cowrie each ... ..	12
Daily amount of tax levied by the Nuggur Durbar ... ..	2
Average daily cost of materials... ..	1
	—
Total expenses ... ..	33
<i>Cr.</i>	
Per average daily product of 6 local muns, sold at 8 cowries each ...	48
Deduct ... ..	33
	—
Daily profit .. ..	15

Or nearly 5 Ahmedabad rupees.

The above is from the best information which I could obtain at the spot<sup>1</sup>; but the return is, I suspect, over calculated, for when sold wholesale a reduction in price is made; moreover, the metal, owing to the inferiority of ore and other causes, frequently does not rise to a higher quality than *chontia*, for which it is sold; nevertheless, considering the small risk and little outlay, a profitable return is manifest. The gradual diminution of the number of foundries in the Peninsula, gives proof of the encroachment of British iron. The master workmen receive from one and a half to two cowries a-day, according to the quantity of iron manufactured<sup>2</sup>. Proximity to jungle is, of course, one of the main points in fixing the site of a foundry, charcoal being the most expensive article in the manufacture.

<sup>1</sup> Ranpoor. The information elsewhere obtained was not full enough to rest on, but it strengthens the Ranpoor statement.

<sup>2</sup> This sum, it seems scarcely necessary to say, is equal to from near eight to ten annas, local currency, and may be roughly estimated at the average value of a shilling.

The workmen commence their daily toil at the first dawn of light, and cease generally a little before sunset: they appeared to labour with much perseverance and industry; it is difficult to witness, without pain, the struggles of these poor people for a subsistence, which our superior skill is yearly rendering more arduous. The annual produce of one foundry is about sixty-five Bombay khandies, or between sixteen and seventeen tons; and taking the number in the Peninsula at six constantly working through the fair season, and two or three more occasionally, the amount of iron fabricated yearly in Kattywar cannot be fixed at much above a hundred tons annually, and, may be safely estimated under 150 tons at the outside, on the supposition that foundries may exist which have escaped my notice; how insignificant is this amount compared with the exports of Great Britain<sup>1</sup>. Owing to the difficulty of obtaining statistical information in a barbarous country, it is possible my estimate of the number of foundries is below the real amount at work throughout the province, but all the southern parts of the Peninsula are provided with iron from Bombay, and I have not been able to discover the existence of any iron mines, much less of foundries, save in the Nuggur and Poorbunder Talookas.

The great diversity of weights, measures, and coinage, throughout the Bombay territories, is a subject of general complaint, and has supplied matter for a very learned dissertation<sup>2</sup>. In this Peninsula the diversity obtains not only in every Talooka, but in many of the towns and villages adjoining each other; there are

<sup>1</sup> About 150,000 tons yearly.

The table annexed at once shows the vast disparity of European and native skill, the augmentation of power afforded by improvements in science of late years, and the increasing magnitude of the British manufacture. It is calculated from tables published in Mc CULLOCH's *Dictionary of Commerce*.

			A. D.	Tons.
Produce of one foundry in Kattywar,			in 1837	... 16½
Ditto ditto			in England, in 1788	... 800
Ditto ditto			ditto 1796	... 1,033
Ditto ditto			ditto 1806	... 1,479
Ditto ditto			ditto 1828	... 2,529
Quantity of iron manufactured in Great Britain,			in 1788	... 68,000
Ditto ditto			ditto 1796	... 125,000
Ditto ditto			ditto 1806	.. 250,000
Ditto ditto			ditto 1828	... 703,184

<sup>2</sup> Captain Jervis' work.

also various weights at the same place: for instance, Durbar weights, selling weights, and buying weights, each varying from the other several pice in the seer, and several seers in the mun; not content with this, the very scales themselves are not equipoised, but require what is termed a *pasung* for a make weight, which, it may be supposed, is made use of as little as possible. The system calls loudly for reform. The difficulty of framing a correct comparative scale from such materials as these can be understood by those who make the attempt, and who also know the inaptitude of the native mind to convey statistical intelligence of any kind. The following are the results of my calculation:—The best species of country iron is called *marka*, the inferior *chontia*. *Marka* is sold at a rate equivalent to 2r. 10a. 6p. Bombay rupees; the Bombay mun 10r. 10a. The hoonurwut, at 53½ rupees per khandy; bought in this quantity, however, it should not be fixed higher than at 50 rupees. The *chontia* fetches a price equal to 1r. 10a. Bombay rupees; the Bombay mun, 6½ rupees; the hoonurwut, at 32½ the khandy; or if purchased in a large quantity, about 30 rupees.

Although Kattywar possesses ample capabilities for the production of iron beyond its own wants, yet the English metal competes with it even in the very spots where it is fabricated, and totally drives it out of the market in less favoured localities; of this iron two species are imported, termed *sukaí* and *roopaí*; the price varies considerably, depending on that of the Bombay market. The first sort is often sold in different parts of the province at a less price than the best country iron, and the inferior sort, or *roopaí*, at even a lower rate than the *chontia*. Foreign iron is subject to a fixed tax, imposed at the different ports of its ingress, which at Poorbunder, Nuggur, Joria, and other bunders of the iron-producing states, often brings it up to par with the country iron, or even to a higher price; but the small demand in the province enables dealers to take advantage of a glut in the Bombay market, to stock the country at a cheaper rate than the average prices in Bombay might lead us to suppose. The *sukaí*, or best quality of foreign iron, is purer than its rival *marka*, but not so malleable. The *roopaí* is inferior even to the *chontia*, and only used for the commonest purposes. The following table gives their comparative degrees of purity; as it has been drawn up from evidence and not personal examination, I do not vouch for its correctness, but having sent specimens of these different sorts of iron to the Secretary to the Geographical Society in Bombay, its accuracy can be tested, should that gentle-

man's scientific labours permit him to turn his attention to so minute a subject of inquiry.

Foreign, English, or perhaps Swedish . . . . .	{ Sukaf, 20 per cent. .
	{ Roopaf, 35 —
Country . . . . .	{ Marka, 25 —
	{ Chontia, 35 —

It will be evident from the above information, that the production of iron in Kattywar runs some risk of extirpation; its superior ductility to the foreign metal preserves it still in existence, perhaps also habit and the ignorance of the people. I leave it to more experienced persons than myself, to determine how much of this quality in the metal is to be attributed to the nature of the ore, and what may be the comparative value in the foundry, of coal and charcoal.

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ART. XII.—*On the modern Deities worshipped by the Hindus in the Dekkan.* By the REV. J. STEVENSON, D.D.

(Read April 3, 1841.)

THE religion of the Hindus of the Dekkan seems to me to consist of four constituent parts; 1st. Pure Brahmanism, as contained in the Vedas and Puranas; 2nd. An ante-Brahmanical worship, consisting in the adoration of painted stones, which are not acknowledged as objects of worship by the Brahmans, but considered as the representatives of demons; 3d. Buddhism, or that modification of it which subsists among the Jains; and under which heads falls the worship of the Pandharpur Vitthoba. 4. A local superstition based on Brahmanism, and consisting of the worship of remarkable persons who have arisen in the Maratha country in times comparatively modern. It is to these modern local deities that I now solicit attention.

The first in order of the modern deities is Khandoba, as he is usually termed by way of respect, or more properly Khande Ráo. This name may have been given him from his breaking the hosts of his enemies, or from his wearing a particular kind of sword called in Marathi, khándá. His Sanskrit name is Mallári, which has been given him from the Daitya he vanquished. This name is corrupted into Mahhár. There is a legend relative to this deity called the Mallári Mahatmya, which professes to belong to the Kshetra Kanda of the Brahmánda Purána. It is a dialogue between Párvati and Mahadeva, the latter of whom merely repeats what Sanat Kumára narrated formerly to the sages engaged in performing austerities in the Naimisha forest. The scene of this romance is laid at a low range of hills called in Sanskrit the Mani Chúdá (Jewel cliff), and in Marathi, Khade Pathár (Table-land above the cliff.) The town of Jejuri, which lies about thirty miles east from Poonah, is built close to its western extremity. At this place, according to the legend, certain Brahmans were interrupted in their devotions by a Daitya called Malla, who with his brother Mani and a great army, while on a plundering or hunting expedition, trod down their gardens, killed their cow, and beat and ill used the Brahmans and their families. As the word Malla, meaning a wrestler, is by no means an uncommon surname, it is probable that in reference to this attack, we may be on historical ground. Malla

is the surname of many of the sovereigns of Nepal, during several centuries ; but had our Daitya come from such a distance as that, the legend would not have been confined to the Maratha country, beyond which I believe it has scarcely ever travelled. Malla is also the surname of a king of Malwa of the thirteenth century, but a Hindu king would hardly have distressed the Brahmans in the way here narrated, and would certainly at least never have killed their cow. In Sir John Malcolm's account of the Bhils, in the first volume of the *Transactions of the Royal Asiatic Society*, mention is made of a powerful tribe of these freebooters, who derive their origin from a place called Toran Mall. Their remotest ancestor, in the same account, is said to have murdered a Brahman, and carried off his daughter ; and one of their patriarchs, Kunda Ráná, with his brothers, to have conquered and ruled over all the surrounding country. By some one of that tribe probably the Brahmans were oppressed when they called in the aid of some other local prince called Khande Ráo. However this may be, the Mahatmya now leaves the earth, and carries us with the Brahmans along the ethereal way to heaven. Arriving first at Amarávati, the residence of Indra, the sages made known to him their griefs. He receives them with respect, but confesses himself unable to yield them any aid. He however directs them to Vishnu. In process of time they arrive at Vaikuntha. Vishnu treats them in the same manner, and directs them to Siva. Siva listens to their prayer, becomes incarnate as Martanda<sup>1</sup> Bhairava, and slays the armies of their Daityas, along with their leaders Mani and Malla. Both of the Daitya captains are converted to the worship of Mahadeva before their death, and, in dying, receive from the hands of the god emancipation from separated existence, and absorption into the deity. This is the common Brahmanical way of disposing of such converts, the guardian deities justly fearing that the Daitya, if let loose again in this world, would once more relapse into their heresy of Brahmahatya. The worship of Vishnu, Ganessa, and Bhaváni are mentioned with respect in the Mahatmya ; and these are the principal Hindu deities besides Mahadeva, which at this day are venerated by the Maráthas. Several of the great Hindu tirthas, and others that are local, are extolled. The Champaka Shashti is directed to be held particularly sacred to Mallári. It is the sixth day of the increase of the moon in the month Márgasirsha (November-December.) This is the great day accordingly at

<sup>1</sup> This particular Bhairava is not mentioned in the usual list.

Jejurí, where Khandoba's principal temple is. It formerly stood on the top of the hill, but on being re-edified by Malhár Ráo Holkár, the first famous Maratha leader of that name, whose family god Khande Ráo was, the site was changed to a level spot, but a little way from the base of the mountain. The approach is by a pretty broad flight of stone stairs. After ascending a little way, you come to a landing-place, where is Khandoba's shepherd, with a herd of rocky buffaloes, cows, and horses, the gift of devotees, whose cattle have recovered from sickness after making vows to the god. Higher up you come to a second landing-place, where is his prime minister, whom tradition affirms to have been of the merchant caste. The third landing-place is the platform of the temple. The giant Malla, who is here outside by Khandoba's horse, first receives a kiss from the worshippers, a boon granted him on his conversion by the god. Inside there is the image of Khande Ráo and his wife Mhálsá, placed behind a Linga, which is raised a little from the floor. It is said also that Vishnu's image is somewhere inside. It is singular enough that the same Malhár Ráo, who rebuilt the temple on the hill, should also have built at the bottom of it another temple to the Linga, behind the symbol of Mahadeva, in which he placed the image of himself and his wife Ahalyá (Ailyá) Bái; intimating, I suppose, that his family had as good a claim to divine honours as that of the deified chief Khande Ráo, and they do receive them from numerous worshippers. Ahalyá Bái, so famous for her virtues and donations to the Brahmans, has also a temple built for her at Nasik, where she is worshipped as an incarnation of Bhaváni. Holkar not only rebuilt the temple at Jejurí, but endowed it with an annual grant of ten thousand rupees. A like sum was granted by the Peshwa's government, which has hitherto been continued by the English. The annual gifts by devotees in horses, cows, cloth, &c. &c., are considerable, and are sold and carried to account. The English government, as the Peshwa's had done before, used to receive a certain share of these donations, taking back with the one hand part of what they had given with the other, till this branch of revenue was relinquished by Sir Robert Grant. Probably the whole revenues of the place amount to thirty thousand rupees per annum. On this money a large establishment is kept up, consisting of image dressers; a fraternity of vira (heroes,) amounting, perhaps, to about fifty individuals, and a sisterhood of twice the number of Murali. One of the vira is required at the annual festival to run a sword through his thigh, and afterwards to walk through all the town

as if nothing had happened to him. This he generally is able to perform, as amid the excitement of the mob, and with the constant motion, the fresh wound does not pain him much, and he is besides well stimulated by bhang and other exhilarating drugs. The power, however, to parade the town with his wounded leg is considered miraculous. It is also pretended that the wound never after pains him, though one of my informants ingenuously confessed that he is usually obliged to keep his bed for six weeks after, and that it also sometimes happens to prove fatal.

The Murali are unmarried females, consecrated by their parents to the god, and sent, when they grow up, to the temple at Jejurí. This insult to public morals, under the garb of religion, is by no means approved of by the more respectable part of the population. I have even known a Brahman who, in travelling, would not even lodge a night in the town, lest the disgrace of such an action should cling to him all his life. Probably this institution owes its origin to the harem of the deified Ráo, who having been in the habit of levying such a contribution during his life, it continued to be paid after his death. The male attachés of the temple also are accused of unnatural crimes, and altogether the fame of the place is so bad that the philanthropist and the Christian must feel more than ordinary regret that the English government has not yet been able to find an honourable way of withdrawing itself from all connexion with such a system, and devoting the money which goes to uphold such an institution to the promotion of the moral and intellectual culture of the unlettered population around it; a reform which, I am fully assured, would be hailed by a great majority of the Hindus.

Although from the local nature of the worship of Khande Ráo, the surname of Ráo, and the engrafting of this worship on the more ancient adoration of the Linga, it would appear to be comparatively modern, still we cannot trace its origin by the light of authentic history. It is otherwise with the worship of Morabá, in whose person, and afterwards in his descendants, to the seventh generation, the god Ganpati (Ganesa,) became incarnate, while the famous Sivaji, who himself has been called an incarnation of Bhaváni, was establishing the Marátha empire. The history of Morabá and his family, and the miracles he and they are said to have performed, and the endowments in consequence made to his temple will be found at sufficient length in the fifth volume of the *Asiatic Researches*, and the third of the *Transactions of the Bombay Literary Society*. The seven generations during which Ganpati promised to



become incarnate in the family of Morabá, have now passed away, and his family has become extinct; yet everything goes on at Chinchwad (Chinchore) as before, and the adopted son of the last incarnate Ganpati is still venerated as a deity. Nor is it likely that this Brahmanical Lama will ever put an end to his transmigrations till the era of the emancipation of the human mind from the degrading bonds of superstition.

Another very singular proof of Hindu credulity was exhibited a few years ago, under our own eyes, in the universal belief which prevailed that Vishnu had again become incarnate among men in the person of a boy in the Sattara territories. Various accounts of this pretended incarnation were published in the Indian periodicals of the day<sup>1</sup>, yet as these may not have found their way to Europe, we shall briefly glance at the principal facts of this history.

Naráyana Powár, commonly called by way of respect, Naráyan Bábá, was the son of a Kunbi, a man of the cultivator class. The surname of Powár, however, is that of one of the Maratha nobles, and like others of them, pretends to a Rájput origin, to a connexion with Puár, altered by the Greeks, it has been supposed, to Porus. It was in 1830 that this boy, when between nine and ten years of age, all on a sudden became an object of notoriety. He was bold and daring, and had learned to catch venomous serpents. The Patel, or head man of Pimpavada, a village situated about sixteen miles to the north of Sattara, and where the boy lived, aided by the Kulkarni, or village-clerk, soon spread his fame over the adjacent districts. Crowds of people, from all quarters, flocked to see him. It was given out that he was an incarnate god. The blind, the lame, the leprous flocked from all quarters expecting miraculous cures. A pool in the small river that runs by the village was converted into a tirtha, and money demanded for permission to bathe there; at the same time no one could approach the new god empty handed. The then Raja of Sattara and all his great men visited this incarnate Naráyan. The Kulkarni, with the most unblushing effrontery, published in the vulgar Marathi, a long list of lepers, and blind, and lame, that had been cured at Pimpavada, and the Patel went as far as Poonah, spreading the fame of his village incarnation over the country. Abhangs<sup>2</sup> were published also in the praise of Naráyan, and a poem of Tulsidás was altered and inter-

<sup>1</sup> See especially the *Bombay Oriental Christian Spectator*, vol. i.

<sup>2</sup> The Abhang is a kind of ode.

polated to proclaim the greatness he was destined to attain. It was given out in this interpolated poem that the principal work of the new incarnation would be to expel the English; after which he himself should sit on the throne of Dehli. The reign of the English, it had been decreed, it was said, should continue for fifteen years, but that now in the year Nanda<sup>1</sup>, the third from the time the new god had made his appearance, their empire should be broken to pieces. Long before this time, however, the poor boy had finished his earthly career, for in about six months after he came into notoriety, he perished by the bite of a snake, which some Rákshasa<sup>2</sup>, in the shape of a low-caste Mahár, had brought to test his divinity. This Mahár was a snake-catcher himself, and no doubt was moved with envy at the honours paid to one whom he deemed his inferior. In many villages there are Maráthas that can catch snakes. They go about their work without any of the paraphernalia of the snake-catchers from the upper provinces. They usually follow some other profession, and exercise this only when occasion requires. When sent for by the inmates of a house where a serpent has been discovered, they go in their common clothes, carrying nothing but their usual cotton plaid. Without any pipe, simply by a whistling noise they make with their mouth, they allure the serpent from his hiding-place. Continuing the same whistling noise, and repeating a mantra, or short prayer, to some one of their gods, they slowly approach; when near enough they make a spring at the snake, dropping the cotton plaid with the one hand on its head, and with the other seizing the reptile as near the back of the neck as possible. Should the snake have room to turn round its head and attempt to bite the hand that detains it, the numerous folds of the cotton plaid fill its mouth, and prevent it from doing any harm. It is now laid hold of higher up, and while the catcher keeps it fast, an assistant comes and extracts the poisonous fangs, after which, if it be a cobra di capello, it is let loose into the jungles, as it would be deemed a heinous crime to do it further injury. This is the process they follow, as I have been informed by one of themselves, as well as by other credible witnesses. The only thing that seems at first sight startling is the capacity of the snake for music, but many animals are excited and attracted by music. Certain notes enrage the lion, and others calm him, as has been determined in London by experi-

<sup>1</sup> That is, from 1818, when the Peshwa's dominions were annexed to their empire.

<sup>2</sup> A demon, such was the theory of his votaries.

ment; why should not the same thing take place in reference to serpents?

But this is a digression. It might have been supposed that after the death of the boy of Pimpavada in the manner narrated, the excitement would at once have subsided. This was far however from being the case. It was given out in three or four different places, some of them such as Bombay and Poonah, a hundred miles distant, that Naráyana had risen again, or that his divine spirit had had gone to animate some other body, when driven by the Rákshasa from the Kunbi of Pimpavada; and that the death of the boy was but a stratagem of the deity, more effectually to execute his purpose. The death of their Apis, however, had taken the priestly attendants of Naráyana by surprise, and they had no one ready with the proper marks to substitute instead of the departed object of their worship, and thus in a few weeks the general excitement throughout the country subsided. One of the ludicrous scenes that were exhibited while it lasted had its origin at Narnal near Severndroog (Suvarna-durga.) A poor weaver, passing through the village one afternoon, was taken ill. Fearing for the consequences, he went into a temple, and prostrated himself before the images. His illness consisting mainly in fatigue, he there, in that position, fell fast asleep. Some of the villagers coming to the temple in the dusk, and seeing a stranger in this odd posture, concluded that it could be none other than the resuscitated Naráyana. Off they went to collect the whole village posse to come to pay their respects to the incarnate god. The weaver was awakened by the rushing in of the crowd to present him with gifts, and to fall down before him in adoration. Instead, however, of being disconcerted at the new honours which fell on him so thick, with that admirable tact and self-possession which Hindus often display, he sat up and received all the people had to give, exactly as if it had been his due, and after they were gone again composed himself for sleep. Early in the morning some of the wiser sort thought that it might not be amiss to inquire more particularly into the claims of the object of their last night's adoration. The weaver candidly confessed that he never had made any pretensions to a supernatural character, but had merely received what the people had given; and so the matter ended.

It might have been supposed, after all this, that a universal confession would have been extorted of the unsoundness of Naráyan Powár's claims to divinity. But no, a tomb was erected to his memory, where he is still worshipped as a departed god. The Rev.

R. Nesbit, in passing through the village in 1834, describes the state in which he found things as follows: "The boy is buried at the spot where he first received divine worship. His little coat is spread over the slightly elevated mound that surmounts his ashes; his shoes are placed at the lower end of it; and a piece of shining metal at the head to represent his face. The stick he used to bear in his hand lies at the side of the tomb. . . Two Brahmans, one of the Dekkan, and another from Hindostan, as well as a shepherd who has turned religious devotee, wait upon him continually with music, singing, burning of incense, &c. . . . The boy's relations became rich by the offerings made to him during his life; and they seem determined to employ his tomb as a source of profit now that he is dead."

There are many other modern deities worshipped by the Maráthas, but those I have mentioned are some of the principal.

In reading such accounts, the mind that has been freed from the bondage of superstition is too apt to turn away with disgust, and look down with contempt on a nation that can be the dupes of such impostures. Let us endeavour, however, rather to seek relief in the homely proverb that "the richest soil produces the rankest weeds." Let us consider what a noble field this must be for intellectual and moral culture, where there is so much mental energy and enthusiasm to expend upon objects which, possessed of no inherent dignity, are rendered great merely by an effort of imagination. The so-much talked of apathy of the Hindu mainly arises from the want of a congenial object about which to exercise the mind; there is no want of sensitiveness when such an object is presented. In the eager desire manifested by the youth of the present day to become acquainted with the English language and literature, where do we discover any Hindu apathy? The subtlety of argument and flights of imagination the Brahmans in former times have exhibited in expounding an ethereal philosophy and a material religion, ought to encourage the hope that when philosophy has been brought down from heaven to earth, and religion directed to the worship of that Spirit who requires to be worshipped in spirit and in truth, a new race of Hindu philosophers and divines will yet be seen adorning their respective walks of literature.

**ART. XIII.—***On the Processes prevailing among the Hindus, and formerly among the Egyptians, of quarrying and polishing Granite; its uses, &c.; with a few Remarks on the tendency of this Rock in India to separate by concentric exfoliation.*  
 By LIEUT. NEWBOLD, F.R.S., &c., Madras Army.

(Read 15th January, 1842.)

AMONG the Hindus of Southern India three modes of quarrying granite prevail. The first, and most common, is by the agency of fire. In this process the surface of the bare convex plateaus, or bosses, of the rock is covered with dry fuel, composed generally of bushes of the thorny Acacias common to the surrounding plains,—viz., those of the *Babul* and *Kikar*,—and proportioned in quantity according to the thickness of the slabs required. The fuel is set fire to, and suffered to burn, except in a few cases, until entirely consumed; when the subjacent rock will be found to have exfoliated in a cavo-convex flake, thinning off towards the edges, and varying in extreme thickness from six to twenty-four inches. The longer continued and more intense the heat, the deeper, in general, the line of separation. The flake is detached by driving small iron wedges underneath, and raising it with an iron lever: the separation is assisted, when the rock is refractory, by dropping a heavy boulder of greenstone or granite on its surface; or, when heated, by a sudden affusion of cold water.

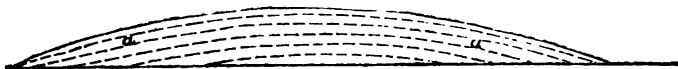
*Laminar Structure and Exfoliation of Granite.*

It may be remarked here, that many of the granite bosses and spheroids abounding in Southern India, have a concentric laminar structure, resembling, in some measure, that of an onion; and often exhibited in weathering, when the rock exfoliates in successive layers describing segments of circles of greater or less radii, from a foot to 100 yards and upwards. It will be readily understood, that short slabs taken from the circumference of the largest bosses will present little apparent curvature: but in working downwards, the curves of the layers, towards the centre of the spheroid, become greater within a given space; and consequently the quarry is no

longer capable of furnishing slabs of moderate length, having the requisite degree of straightness for the purposes to which they are usually applied.

Diagram No. 1 presents a section of a boss of granite. The dotted lines *a. a.* in it and No. 2, show the direction of the concentric layers, not visible in the unheated, or unweathered mass.

No. 1.



No. 2.

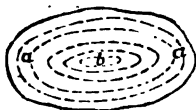


Diagram No. 2 is a section of the smaller spheroids, often seen loosely scattered over the plains, and perched on the summits of granite rocks. Those of Hydrabad have been, by some,—Brongniart and De Luc<sup>1</sup> among others,—erroneously supposed to be erratic blocks; but they owe their bouldered form to a process of spontaneous concentric exfoliation, which I have also observed fully developed in both the older greenstone and overlying trap rocks of India; and, in a minor degree, in some of the *trachytes* of Smyrna and Mitylene, and the older lavas of Etna and Vesuvius.

This concentric structure, it is hardly necessary to mention, has been proved,—by the ingenious experiments of the late Mr. Gregory Watt in melting 700 cwt. of the Rowley-rag basalt,—to be caused by refrigeration, under certain conditions, from a fused state. The spheroid is, perhaps, only an approximate to a more perfect form of crystallization on the large scale. In India it extends to the granitoid or thick-bedded gneiss in contact with, and near the granite, which is also quarried in a similar manner; the laminae exfoliate nearly horizontally, at right angles with, and totally independent of, the vertical strata of the rock. So strongly developed are these concentric lines of separation, that they often divide individual crystals of felspar across their planes of cleavage. These facts may not only be regarded as corroborative of the Huttonian hypothesis, viz., that the materials of gneiss, originally deposited from water in the usual form of aqueous strata, were subsequently altered by sub-

<sup>1</sup> Tableau des Terrains, page 83.

terranean heat so as to assume a new texture, but still further,—that this stratified rock, from heat, has assumed the globular laminar structure of plutonic and volcanic rocks, which, in the former, often intersect at right angles the original lines of deposition, and even the cleavage planes of embedded crystals.

The apparent stimuli to a development of this structure, often latent in the granite, greenstone, and granitoidal gneiss of India, are the sudden alternations of heat, moisture, and cold; assisted, probably, by electric currents excited under such conditions, and carbonic acid gas mingled with the water of springs, which abound with it.

The exfoliation of whole mountain masses, on the grand scale, by such natural causes, produces some of the most picturesque features of an Indian landscape. Hence its singular, dome-shaped, mammillary rocks, crowned with tors and logging-stones of the most fantastic forms. Many appear to the casual spectator to have been rolled up to the bare heights they occupy, and piled by some giant hand; or riven, and thrown into wild confusion by a convulsion of nature; or scattered over the plain by the torrent of a deluge.

These appearances are caused by joints, nearly vertical, (*a. a. a. a.*, Diag. No. 3,) crossing at right angles the nearly horizontal concentric lines, (*b. b. b. b. b.*,) and originating, probably, in similar causes. Thus the rock is divided into rhomboidal and cuboidal masses, (*c. c. c. c.*,) resting one upon the other. In process of weathering, those on the inclined sides of the convex boss soon slide down into the plain below, forming a rugged talus at the base (*d. d. d. d.*) Some of these rock-slips, from considerable heights, are attended with a noise like thunder.

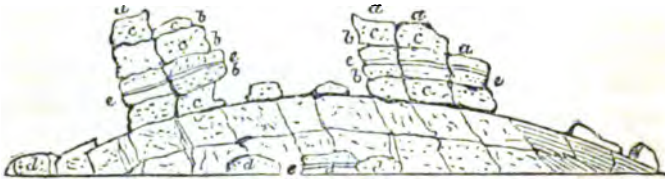
The blocks that remain piled on the less inclined surface of the summit, often retain their isolated position, resembling the ruins of some Cyclopean structure; but in course of time, either overbalanced by their own weight, or by splitting, or exfoliation of the rock beneath them, they lose their equilibrium, and are precipitated to the base.

Solitary columnar piles (Diag. No. 4) are frequently left standing on bare elevated plateaus of rock, held together by a cement resulting from their own detritus, and washed by the rains into the joints and seams. That these blocks once formed one continuous mass with the adjoining rocks is evident from the dip and direction of the lines of exfoliation, (*b. b. b. b. b.*, Diag. No. 3,) and from those of

veins passing through the whole series (*e. e. e. e. e.*, Diag. No. 3). Such is the nature of the process by which the granitic mountains of India are slowly, though surely, crumbling into dust, which, diffused by the action of the rains, and the springs that have assisted in the disintegration of the rock, is gradually blended with, and lost in, the soil of the surrounding plain.

Diagram No. 3 is taken from the granite rocks near Bayagudda, on the N.W. frontier of Mysore; and No. 4 from a pile of granite near Bellary, twenty-eight feet high from *a* to *b*, and about forty feet from *a* to *c*. I regret not having my friend Lieut. Lawford's clever sketch of this singular pile to present to the Society, in lieu of my own rude scratch below.

No. 3.



No. 4.



#### *Second Process of quarrying Granite.*

The first process of quarrying granite, just described, is resorted to when stone is required for ordinary building purposes. For statuary, mill-stones, and for other blocks of given dimensions, and of a greater thickness than one or two feet, the Hindus have recourse to another method, without applying heat, and precisely



similar to that of the ancient Egyptians in quarrying the granite of Syene, since the action of fire renders the stone liable to split and scale in working, and as its effects are little under control. Chains of small holes, about an inch square, of different depths, from an inch upwards, according to the thickness of the block required, are cut at short intervals in the requisite directions by means of small chisels with highly tempered points. While working the holes, water is poured into them to preserve the temper of the chisel by keeping it cool, and to facilitate the cutting of the stone. The liability of iron instruments employed in the working of granite to become blunt by the action of heat, is thus noticed by Sir R. Westmacott<sup>1</sup>. "Granite, as most materials of that nature, being generally worked with a pick of various strength, until reduced to a surface, the duration of the tool depends upon its form; the more obtuse, the longer it will work, remaining longer cold. In *jumping* (as it is termed) holes for the admission of bolts into fractured parts of granite, the tools are usually of strong tempered iron, about three-quarters of an inch in diameter, which resist the heat sometimes half an hour, seldom longer. One man holds, and turns, or moves the tool, whilst the other strikes it with a heavy hammer, the hole being supplied with water. Tools of less diameter are formed of steel; but these will not resist more than 300 strokes, when the points fly, and require to be fresh battered. Sculptors generally use tools formed of blistered steel, or of cast steel, the finer sort highly tempered by immersing them, when heated to a proper degree, into cold water." Thus it appears that the effects of heat in blunting iron tools employed in the working of granite are not only known to the Hindus, but that their mode of remedying the evil is identically the same as that in practice among the enlightened sculptors of Europe. The former effect the separation of the block by gentle, continued, and simultaneous striking on a number of iron wedges inserted into the holes just described<sup>2</sup>. Large detached masses of granite and greenstone are readily split asunder by a modification of this process, the antiquity of which is

<sup>1</sup> SIR GARDNER WILKINSON'S *Ancient Egyptians*, 1st Series, Vol. III., p. 250. Note.

<sup>2</sup> Major Wheeler informs me, that in one instance he observed the natives pour water into the opening effected by the wedges, immediately after the stone had begun to give way. He then put his ear close to it, and heard the noise of the stone opening: a few more knocks on the wedges were sufficient to effect the separation.

proved by the chisel marks still visible in the ancient quarries. Those in the granite rocks around the ruins of the ancient Hindu city of Bijanugger, whence were hewn the large blocks seen in the Cyclopean masonry of its walls and temples, and composing some colossal monolith statues, are perfectly as fresh and sharp as though cut only a year ago.

*Third Process.*

There is still another process resorted to by the *Wudras*, or native quarriers, of Southern India for obtaining long thin flags to cover over small bridges, for pavements, lintels, posts for vine trellises, and other purposes for which more exactness of shape and size is necessary than in the slabs separated by the first method. In the third, the principles of the other processes are combined. The rock is heated by fire, holes are then cut about an inch and a half asunder, and about two inches deep, and the block detached in the manner described in the second process. The first is usually applied to thick-bedded gneiss, and the laminar, large-grained, crystalline, micaceous granite; the second to the more compact, hornblendic, and close-grained; and the third to an intermediate variety, from which I have seen blocks eighty feet long separated.

My friend Lieut. Lawford, of the Madras Engineers, informs me that the native quarriers of Bellary do not profess themselves capable of judging of the quality of the granite by the eye, but by its sound when struck,—the more sonorous varieties being found the hardest, and most infissile,—a phenomenon readily understood. They are also aware of the calorific action of the solar rays on the rock, in assisting the process of its separation, and usually select the hot season for their operations; partly for this reason, and partly to avoid the inconveniences of working during the monsoon. I found the temperature of a granite boss at Dewanconda, in the Ceded Districts, in June, 1839, at 3 P.M., 120.5° Fahrenheit; while that of the air in the sun was only 100°, and in the shade 95.5°. Temperature of rock at midnight, 86.5°; temperature of air, 79.5°. Humboldt notices the great degree of warmth retained during the night by the granitic rocks of South America, which was found to be 85.5°, while that of the air was 78.8°. In the day their temperature was 118.4°; and the heat they emitted, he describes to have been stifling.

The more laminar varieties of the granite and thick-bedded

gneiss, in the vicinity of Bellary, may be separated into layers thin enough for the purposes of tiling. According to Lieut. Lawford, the ordinary sized granite building slabs are there sold at 500, and 700, per rupee; the largest sized, 1000 per  $3\frac{1}{2}$  rupees. Flags,  $1\frac{1}{2}$  ft. square, and from 4 to 9 inches thick, are 5 rupees per 100, a price exclusive of the labour of the stone-cutters. Blasting is seldom resorted to by the Hindus, though the Mohammedans of India had early recourse to it: marks of old exploded blasts are visible in the rocks of Chitteldroog, Severndroog, Cudhully, and other places in Southern India.

*Egyptian mode of quarrying Granite.*

Sir Gardner Wilkinson, apparently under the impression that the ordinary Hindu method of quarrying granite is by the affusion of cold water over its heated surface,—a process only occasionally resorted to in difficult cases, as previously remarked, or, when very thin slabs are required, to prevent the heat from penetrating deep into the rock,—states<sup>1</sup>, “that some have imagined that they” (the ancient Egyptians) “used the same means now practised in India, of lighting a fire along the whole length of the mass, in the direction they intended it should split; and then, pouring water upon it, cracked the stone in that part by its sudden action: but this is very doubtful, and the presence of the holes for the wedges sufficiently proves the method they usually employed.” Now it appears that the usual Egyptian mode of cutting large blocks from the quarries “by a number of metal wedges, which were struck at the same instant along its whole length,” is identical with the Hindu process, No. 2, described at pp. 4, 5, and 6. The troughs described by Sir G. Wilkinson, as frequently found along the whole line of holes where the wedges were inserted, and as affording strong argument in favour of his opinion that the rock was sometimes split by the expansion of wedges of highly dried wood being driven into the holes, and then saturated with water, seem rather to have been intended to facilitate the splitting of the granite in the proper direction. It is possible that, like the Hindus, the ancient Egyptians were not ignorant of the effects of cold water in preserving the edges of their chisels in punching the holes; and that the troughs might have been intended to convey a stream of water to the whole line. They were acquainted with the use of fire in splitting rocks, as is evident from a fragment by Agatharcides on the Red Sea,

<sup>1</sup> *Ancient Egyptians*, 1st Series, Vol. III., pp. 337 and 338.

wherein he mentions that the hard rocks of the gold mines of Egypt were cloven by heating them with burning wood before the application of iron tools.

*Tools used by Hindus in quarrying Granite.*

The tools used by the Hindus are chisels, hammers, wedges, and levers. The chisels are usually small and pencil-shaped, of steel, or of iron with highly tempered points. The wedges and levers are of iron; the former square, tapering slightly, and from two to three and a half inches long, varying in thickness. My friend Lieut. Smythe, of the Madras Engineers, informs me that the wedges he has seen employed were not more than two and a half or three inches in length, and about three quarters of an inch square, with top a little more than an inch square; bottom slightly smaller than the top. The hammers used were of wood. Iron hammers are also employed, on the striking face of which is a hollow filled with lead, or a piece of soft iron,—a contrivance which not only tends to preserve the edge of the chisel in working, by diminishing the vibration, but preserves the hammer also, as the lead or iron in the cavity can be replaced as often as worn out.

*Tools used by the Egyptians.*

It is certain that the ancient Egyptians used implements of bronze in their quarries; but much doubt has been expressed as to their employment of tools of iron and steel. Iron was known to the Greeks 188 years before the Trojan war<sup>1</sup>, and to Tubal Cain before the deluge<sup>2</sup>. The Jews worked iron in the time of Moses, shortly after their return from Egypt<sup>3</sup>. It is hardly possible to suppose their late teachers and taskmasters, the Egyptians, confessedly skilled in the arts of metallurgy, should have been ignorant of this useful metal; or, that they could have hewn out of their quarries the numerous and prodigious blocks of the hardest granite and basalt, which still attract the wonder of the world, with no other implements than chisels of bronze, armed even with emery and corundum. It must be remarked, on the other hand, that while wedgelike tools of bronze (the *λατομίδες χαλκοί* of Agatharcides) are found, though rarely, in the quarries of Egypt, no iron implement has been detected, with the exception of a fragment, in the great

<sup>1</sup> Arundelian Tables.

<sup>2</sup> Genesis, iv. 22.

<sup>3</sup> Numbers, xxxi., 22; Deut., iii. 11.

pyramid, by Colonel Vyse and Mr. Perring; three rust-eaten pieces of a sickle, under the feet of a sphinx at Thebes, by Belzoni; and the small iron hoe deposited in the museum at Berlin. The dates of the two latter specimens are uncertain; but the first, it is proved, must have been cotemporary with the pyramid itself. As Sir G. Wilkinson justly observes<sup>1</sup>, the butchers in the sepulchres of Thebes are represented "sharpening their knives on a round bar of metal attached to their apron; and the blue colour of the blades, and the distinction maintained between the bronze and steel weapons in the tomb of Rameses III.,—one being painted red and the other blue,—leaves little doubt that the Egyptians at an early Pharaonic age were acquainted with the use of iron;" and I fully concur in concluding, that the principal reasons for the rare discovery of iron implements among the antiquities of Egypt, are the rapid decomposition of that metal from the saline atmosphere and sands, and the preference for instruments of bronze, from its greater facility in being worked. Still, although only one iron mine has hitherto been discovered in Egypt, I am satisfied, from indications observed in crossing the Thebaid desert, that iron ore exists in several places among the rocks of that region. And, even supposing the ancient Egyptians to have been ignorant of the existence of iron ore in their own country; or unable, or unwilling to take the trouble of reducing it, yet the facilities of import from Phœnicia, Spain, Judæa, India, or the Grecian Archipelago, would be equally great with those of the import of tin, (used in the manufacture of bronze,) silver, spices, lapis lazuli, &c., and of the emery, corundum, and diamonds supposed to have been employed in cutting and polishing stones. I have also little doubt that the number of implements of iron and steel was small, and their use restricted to purposes for which bronze would prove inadequate.

In quarrying alabaster, gypsum, and the softer varieties of sandstone and limestone of Egypt, of which the pyramids and its earliest monuments are constructed, tools of bronze would be sufficiently hard. These rocks, like the Indian laterite, and some of our own freestones, though soft, and often chalklike in the quarry, exhibit a tendency to harden on exposure. The circumstance of a bronze chisel having been found in the limestone quarries at Thebes, strengthens this supposition. Another reason for the rare discovery, at the present day, of ancient tools, whether of bronze or iron, used in quarries and other out-door work, may be found in the

<sup>1</sup> *Ancient Egyptians*, 1st Series, Vol. III., p. 247.

depredations committed both by strangers and the inhabitants of the soil, during a series of revolutions and ages.

*Granites of India and Egypt.*

Many of the granites of India resemble closely, in lithological character, the varieties found at Syene. Its red type is found in the granite of Severndroog, which is composed of fine crystals of red and rose-coloured felspar, combined with dark brilliant scales of mica, transparent quartz, and a few interspersed crystals of hornblende. Such is the granite composing most of the obelisks, and many of the colossi of Egypt. The compact, grey, fine-grained, and hornblendic granites, skirting the red granite of Syene, all have their types in the rocks of Mysore and the Ceded Districts. The red varieties in both countries appear to be the least laminar, and not so easily affected by fire.

*Processes of Polishing.*

The exquisite polish, for which the granites, greenstones, and basalts of Egypt have been so much admired, is equalled, if not excelled, by the lustre of those of India, particularly in the mausolea of Golconda, the ruins of Bijanugger, Gulberga, and in many of the temples interspersed throughout the Nizam's dominions, the Ceded Districts, Mysore, Coimbatoor, Salem, the Carnatic, and Tanjore. For producing this polish, I have seen two processes practised by the Hindus.

In the first, a smooth, heavy piece of granite, or greenstone, of a flattish cylindrical shape, is armed on its under side, which is slightly hollowed out for the purpose, with a mixture of powdered corundum, and the common lac previously melted. This adheres, in cooling, very strongly to the stone, which is then fixed firmly between two flexible sticks, whose extremities uniting at either end form a double handle, by which the stone is worked, backwards and forwards, over the surface of the slab to be polished, which has been previously slightly smoothed. Water is occasionally sprinkled, to diminish friction, and to prevent the lac from being heated and sticking to the slab. The polishing stone is usually worked by two men or women, sitting opposite each other.

In the second process, to which they have recourse in polishing idols, cornices, mouldings, and other objects of sculpture, where nicety of adaptation is necessary, pieces of wood of different sizes and shapes, armed with the preparation of corundum and lac, are

used with water, and not unfrequently lumps of the preparation itself without the wood. The corundum powder in each lump is of a different degree of fineness. They commence first with the coarsest,—using the finer as the polish advances. The manner of applying them with the hand upon the surface of the image, and the shape and size of the polishing blocks themselves, were recalled forcibly to mind by the sight of some paintings at Thebes representing several Egyptian sculptors in the act of polishing a sitting colossal statue of granite<sup>1</sup>. Corundum and emery have not hitherto been found in situ in Egypt; the latter, as Sir G. Wilkinson observes, might have been imported from Naxos and Smyrna, and the former from India where it exists in great abundance in various parts of the Mysore and Salem districts, and still forms an article of export by the Arab and Moplay merchants to Ceylon and the Eastern Archipelago, chiefly for the purpose of polishing stones and gems<sup>2</sup>. In passing the desert that lies between the Red Sea and Thebes, I crossed a zone of gneiss associated with micaceous, and a talcose schist, resembling that which forms the gangue of this mineral in India: it is not therefore impossible that mines may have existed then, whose site is now lost.

#### *Uses of Granite.*

Some of the purposes to which the Hindus apply granitic rocks, have been adverted to in the course of this paper. Granite, greenstone, basalt, and a dark talcose rock, are preferred by them for their altars, images, and phallic emblems. The Jains, however, evince a strong predilection for images of metal and white marble. A singular instance of the preference of the Hindus for granite, in the construction of their temples, occurs amid the ruins of Bijapore, a city built almost entirely of the brownish purple amygdaloid of the surrounding secondary trap formation. Here the only structure of granite visible, is an old massive Hindu pagoda, whose ponderous granite rafters must have been brought at least from a distance of twenty miles through heavy cotton ground.

The granite caryatid pillars of the temple of Viddya Vittel, amid the ruins of Bijanugger, a sacred city entirely built of this rock, and abounding with colossal statues of the same material,—some from nine to seventeen feet high,—present a mass of deep and elaborate

<sup>1</sup> Vide WILKINSON'S *Ancient Egyptians*, 1st Series, Vol. III., p. 336.

<sup>2</sup> Vide my account of the Corundum pits in Mysore, published in the *Journal of the Madras Branch Royal Asiatic Society* for January, 1840.

carving, unequalled by any specimen of sculpture I witnessed in Egypt.

*Granite Monolith Colossi.*

The granite monolith colossus to the Jaina Saint, Gomúta Raya, at Sravan Belgola in Mysore, exceeds in height any similar known colossal statue of granite in Egypt. It is seventy feet three inches high<sup>1</sup>, and stands on an elevated rock, from which it has apparently been cut, a conspicuous landmark to the surrounding country. I was unfortunately prevented by the superstition of the Jaina priests who accompanied me from making accurate measurements of the proportions of this gigantic statue. It is entirely divest of drapery, in an erect position facing the north, and has the curly hair, large disproportionate ears, and thick lips almost peculiar to the Jaina statues: of the latter feature, and the expression of calm, placid repose prevailing the whole, I was powerfully reminded in examining the head of the younger Memnon. The legs are wreathed with the leaves and tendrils of a parasitical plant,—the Ratimulla,—and, together with the hands, are clumsily executed. The granite is rose coloured, resembling that of Syene, but of finer grain. There is another granite colossus to the same personage at Carculla, in Southern Canara; the extreme dimensions of which above ground, are thirty-eight feet in height, and ten feet in thickness. It bears a date equivalent to A. D. 1431<sup>2</sup>.

The largest discovered statue of granite in Egypt is that dedicated to Rameses II., which lies prostrate and broken, in the Memnonium at Thebes; though not so large as its Indian rival, it claims greater attention, from the circumstance of its having been transported to its present position, at least one hundred and thirty-six miles from the quarry. This merit it possesses, in common with many other Egyptian colossi and monolith temples, over those of India, which are generally hewn and left in situ. The great Sphynx, it may be observed, en passant, is hewn from a soft calcareous rock in situ, and is said<sup>3</sup> to be one hundred and forty-three feet long, and sixty-two feet high from the belly to the summit of the head. But to return to our subject:—the statue of Rameses was so much broken as to preclude accurate measurement of its extreme dimensions; but judging from the proportions of the parts still remaining, (though this is by no

<sup>1</sup> HAMILTON'S *Gazetteer*, Art. "Sravana Belgula."

<sup>2</sup> *Ibid.*, Art. "Canara South."

<sup>3</sup> Pliny. xxxvi. 12.



means an accurate criterion in either Hindu or Egyptian sculpture,) I should think that its extreme height could not exceed fifty feet, if so much: as the statue was originally in a sitting posture like the two sandstone Memnons in the plain, whose height Sir G. Wilkinson<sup>1</sup>, states at forty-seven feet.

The breadth of the statue of Rameses between the shoulders I found to be twenty-two feet three inches<sup>2</sup>; the length of the ear about three feet; and the length of the second toe, including the nail, on the remnant of a fractured foot, two feet ten inches, the girth round the chest is between sixty-two and sixty-three feet.

### *Monolith Temple of Granite.*

In alluding to the monolith temples of the Hindus, I shall not mention those of Ellora, Elephanta, or Carli, being excavated from rocks generally much softer than granite,—viz. an amygdaloidal trap and wacke,—but proceed at once to give an idea of the magnitude and extent of the singular monoliths at Mahabalipur, on the Coromandel coast. As it is not the object of this paper to enter into any relative comparison of the details of Egyptian and Hindu sculpture, I shall confine myself almost entirely to the points just mentioned. Mahabalipur, or the Seven Pagodas, is a range of rocks extending along the Coromandel coast in lat.  $12^{\circ} 36' N.$  and long.  $80^{\circ} 16' E.$ , and scattered irregularly over an area of nearly two miles long, and three-quarters of a mile broad. They are composed of a hard grey granite containing quartz, mica and felspar, with a few crystals of hornblende interspersed. Many have been hollowed out by art, and sculptured into temples adorned with spirited bas-reliefs,—representing episodes in Hindu history and mythology,—and supported by graceful columns,—all carved from the solid rock. Detached masses have been cut into the shapes of elephants, tigers, lions, &c., and colossal statues of gods. Mr. Goldingham found the southernmost of these temples about forty feet in height, twenty-nine in breadth, and nearly the same in length;—the exterior covered with elaborate sculpture. The next is about forty-nine feet in length; in breadth

<sup>1</sup> *Ancient Egyptians*, 1st. Series, Vol. III., p. 329.

<sup>2</sup> Sir G. Wilkinson's measurements are as follows: "Its foot exceeds, in fact, seven cubits; and to judge from the fragments, must have been about eleven feet in length, and four feet ten inches in breadth. The statue measures from the shoulder to the elbow twelve feet ten inches, twenty-two feet four inches across the shoulders, and fourteen feet four inches from the neck to the elbow." (*Thebes*, p. 10. Note.)

and height twenty-five feet : it is rent by natural causes, from summit to base. According to the local Brahmanical tradition, these interesting sculptures were executed by four thousand workmen, who had emigrated from the north, and returned before their completion. From a careful examination, it is evident that almost all of the enormous mass of sculpture and carving that adorns this city of monolith temples and colossi, must have been performed without the assistance of fire—with the hammer, chisel, lever, and wedge alone : and this is one of the hardest rocks in the world!<sup>1</sup>

The largest existing monolith temple of granite in Egypt is that of Tel-et-mai, on the Delta. It is twenty-one feet nine inches high, thirteen feet broad in front, and eleven feet seven inches deep on the exterior<sup>2</sup>. That of Amasis, if we may believe Herodotus, nearly equals those of Mahabalipur in magnitude,—measuring outside the roof, twenty-one Greek cubits in length, fourteen in breadth and eight in height. It was brought from Elephantine to Sais,—a distance of twenty days' navigation. Two thousand men were employed three years in transporting this immense mass. Another, still larger he mentions as standing at Buto, at the Sebennytic mouth of the Nile, in the fane of Latona, forty cubits in height<sup>3</sup>.

#### *Pillars and Obelisks.*

The ancient Egyptians far excelled the Hindus in the grandeur and number of their monolith pillars and obelisks of granite. Most of the proudest specimens of the former have been scattered abroad among the nations of Europe,—lasting records of their fame,—and with the deeply-cut hieroglyphics that cover most of them, the wonder and admiration of the world. The largest now stands in front of Rome's most magnificent Christian temple,—the Basilica of St. Giovanni Laterano. Another too, I contemplated rising in stately haughtiness amid the mosques and minarets of the great metropolis of Islam, Stamboul ; whilst a third decorates the gayest place of the gayest city in Europe, Paris. Its companion I had left in desert

<sup>1</sup> Mahabalipur is supposed to be identical with the commercial emporium of Maliarpha, mentioned by Ptolemy in his 7th Book. Both Roman and Chinese coins have been found in the vicinity. A recent letter, dated August last, from my friend Mr. Norton of Madras, announces the discovery of a number of ancient coins on the spot made during a visit in which he accompanied Lord Elphinstone to this singular city in the early part of the same month. One he mentions, of Valentinianus, as quite distinct.

<sup>2</sup> *Ancient Egyptians*, 1st Series, Vol. III., p. 331.

<sup>3</sup> Herod. II., 175.

<sup>4</sup> *Ibid.*, II., 165.

loneliness, a solitary sentinel still keeping its post in front of the great propyla at Luxor, amid the vast wreck of Jove's hundred-gated city scattered around. The total number of known Egyptian Obelisks (which, with few exceptions, are granite monoliths) is estimated at forty-two, twelve lie prostrate, and only eight out of the number now remain in Egypt<sup>1</sup>,—singular vicissitude! though hardly to be lamented, when we consider the fate to which many of Egypt's glorious monuments have been consigned in their native land,—a fate from which the Elgin marbles were snatched, and one from which the liberality of the British nation is about to rescue many of the lately explored and interesting antiquities of Asia Minor. Twelve of the Egyptian obelisks are of the colossal order: the largest—the Lateran—is one hundred and five feet seven inches in height: its weight, about four hundred and forty tons. The Hindus, as far as my observation extends, are unacquainted with the obelisk: the plan of that erected by them near Seringapatam, to the memory of Josiah Webbe, was furnished by Europeans. It is composed of a single block of granite from sixty to seventy feet high, with a base six feet in diameter. Their inscribed pillars or *Laths* are usually cylindrical. Some of the *Gúrda Kámbhas* in front of the pagodas are octangular granite shafts often forty feet high.

#### *Bridges, &c. of Granite.*

Many bridges have been constructed by the Hindus of enormous blocks of granite placed upright at certain intervals, supporting slabs of the same rock laid horizontally upon them. Such was the bridge that crossed the Tumbuddra, at the ruins of Anagundi. That crossing the northern branch of the Cauvery, near Seringapatam, is composed of three rows of square granite pillars, each row comprising sixty-seven pillars, and each pillar a single block of granite, connected by cross beams of the same material, over which others are laid transversely. The bridge traverses the river in a winding direction, and is altogether a rude but striking specimen of native art. I did not observe any ancient bridges in Egypt of granite or other material. Both Hindus and Egyptians were acquainted with the arch. The celebrated arch of Saccara, and the imitations of arches at Thebes, have their counterparts in the granite walls, and in

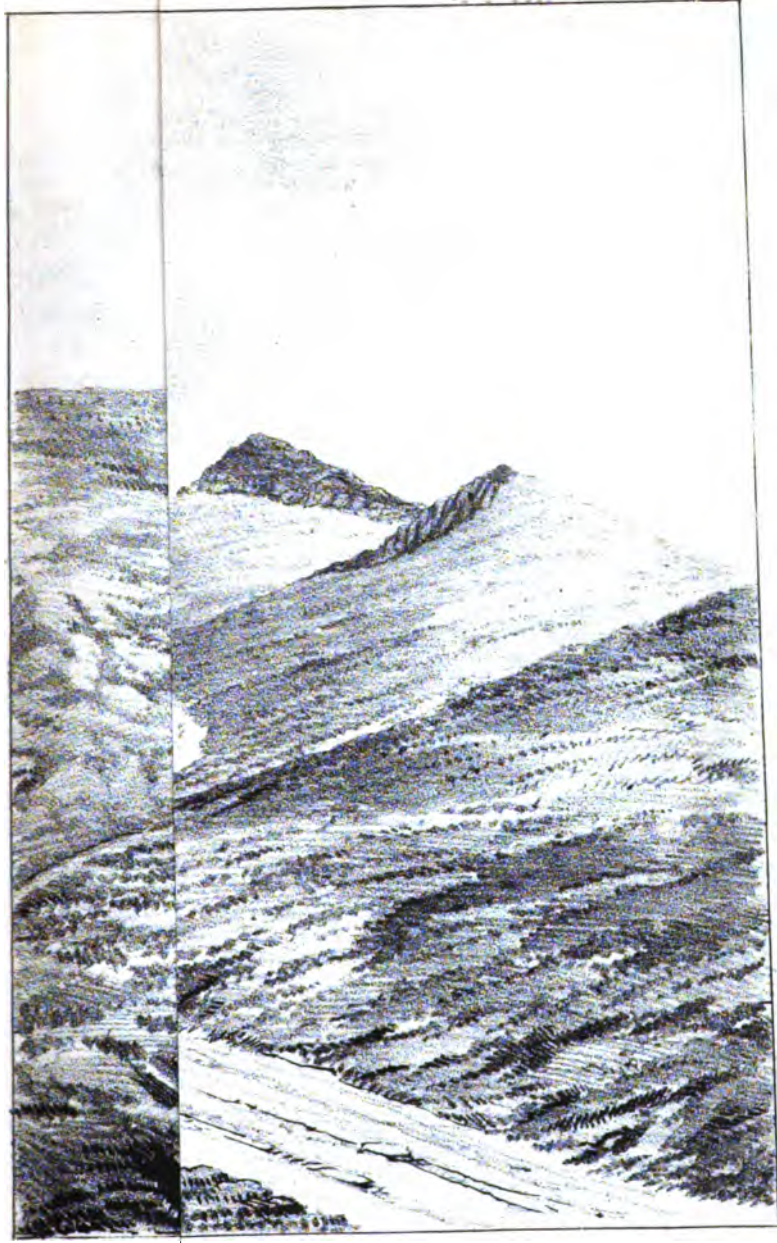
<sup>1</sup> BONOMI on *Alnwick Obelisk*.—*Lit. Gazette*, 1245, p. 771. Note.

<sup>2</sup> *Ibid.*

the passages up the Vimána of the great temple at Bijanugger; but arches were not applied by the Hindus to the construction of bridges.

With regard to the first introduction of granite for the purposes of sculpture, we may refer it, probably, both in India and Egypt, to a period subsequent to the discovery of iron and steel, the use of the softer rocks,—such as limestone, laterite, sandstone, and others easily workable with tools of bronze,—a metal confessedly of more ancient date in the history of metallurgy than iron. Granite, on account of its great durability, has rivalled marble in the distinction of being selected by the most enlightened nations upon earth, to assist in the commemoration of great events, to extend the power of priestcraft, or to hand down to posterity the glory of demigods, sages, kings, and heroes.

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ART. XIV.—*On some Ancient Mounds of Scorious Ashes in Southern India.* By T. J. NEWBOLD, *Lieut., Madras Army.*

(Read January 1, 1842.)

ABOUT the middle of 1836 I sent to the late Mr. J. Prinsep, then Secretary to the Asiatic Society of Bengal, a brief account of a hill of ashes, situate at Budigunta, about eleven miles W. from Bellary, in the Ceded Districts, which he published in the *Journal of the Society* for October of the same year under the head of "Note on the occurrence of Volcanic Scoria in the Southern Peninsula;"—a title given by himself to the communication, from which it may be inferred that he was inclined to consider the ashes (specimens of which were forwarded) as of volcanic origin.

At that time I was in doubt as to the nature of the hill, but certainly did not suppose it to be volcanic, and contented myself with describing its dimensions, external configuration, surrounding formation, appearance of the ashes, &c.; and giving a summary of the local traditions of the Hindus, and opinions of the Madras Pundits regarding its origin.

In 1838, in the January number of the *Journal of the Madras Branch of the Royal Asiatic Society* a note appeared on this and similar collections of ashes, grounded on information chiefly afforded by myself, and written by my friend Mr. Cole, its talented Secretary, who coincides in opinion with Dr. Benza, to whom specimens were likewise sent, that the ashes are pieces of ancient kunkar (nodular and tufaceous carbonate of lime) more or less calcined and semi-vitrified; "which probably, having been long exposed to the atmosphere, have imbibed again some carbonic acid." An engraving of the Budigunta hill of ashes, from a drawing furnished by my friend Lieut. Lawford, of the Engineers, accompanies Mr. Cole's note, previous to the publication of which I had also been led to conjecture, that the ashes were the produce of ancient furnaces for the burning of lime; but expressed, at the time, my reason for doubting this supposition, a doubt which subsequent circumstances have tended to strengthen.

Since the publication of the notices alluded to I have had an opportunity of examining more of these singular mounds, and of opening one to its base; but, before entering into the result of this exploration, it would be advisable to afford some idea of the extent over which they are scattered, their situations, magnitude, shape, and general character.

Cavelly Venkata Lutchmia, President of the Madras Hindu

Literary Society, informs me, that during thirty years' travel with the late Colonel Mackenzie, he observed similar mounds in Mysore, viz., two in the Chittledroog country, called *Búdigunta* and *Búdíbeta*. He observes, "There is also a capital in Mysore, named *Búdíhal*, and a place in Sundah, on the frontier of Nugger, called *Búdítipa*, all named after these ashes, *Búdí*, in Canarese, signifying ashes; hence *Búdí-gunta* is literally the 'Hill of ashes.'" The ashes composing these mounds, he goes on to say, are similar to those now forwarded to the Society: some are, however, of a lightish brown, and harder in substance, and are supposed to be of greater antiquity than the white variety.

I have seen mounds of similar ashes scattered about in secluded spots among the rocks of the Ceded Districts. There are two at the eastern base of the Copper Mountain west of the Cantonment of Bellary; two to the N. E. among the Peacock hills, and one amid the rocks in the vicinity of the ruins of Bijanugger. But that of *Búdigunta* near Bellary, already mentioned, is the largest and most remarkable. It is a dome-shaped mound, about 46 feet in height, and 420 feet in circumference, situate at the top of a sequestered pass embosomed by dark-coloured hills, and rocks of greenstone and of ferruginous and silicious schists, whose sombre hues are strangely contrasted with the grey cineritious aspect of the mound they environ. It is composed of masses of scorious ashes, pretty firmly agglutinated, and partially covered with long rank grass. They project from the sides in several places like steps: towards the summit they are whitish and friable, and appear to have been crushed; but nearer the base are seen larger masses having a mammillary and stalactiform superficies, shining, semi-vitrified, and often hard enough to scratch glass. The internal structure of the more calcined portions is highly vesicular, not homogeneous, but imbedding in its cavities whitish friable ashes, and hard dark green or black cellular cinders. The more scorious portions are of various shades of green, approaching black, grey, and white; the embedding substance consists of friable earthy ashes of various shades of brown and white, the prevailing hue of the whole at a distance being a cineritious white. In riding over the hill a hollow sound is elicited by the hoofs of a horse, or by the percussion of any heavy substance. The summit is slightly convex; on it I found a fragment of clink-stone, and of hornblende rock; the latter appeared to have been excavated by art, probably a portion of some ancient vessel.

The mounds at the base of the Copper Mountain are much smaller and flatter, and appear to have been piled by human hands



into the form of irregular parallelograms. The dimensions of the largest are 34 yards by 29 yards. The surrounding formation is gneiss, granite, and greenstone schists, intersected by basaltic dykes.

The mounds at the Peacock hills lie among rocks of granite traversed by an enormous basaltic dyke, 40 yards in breadth, walled in by precipices of granite which rise in some places about 100 feet above the mounds of ashes at their base. The latter have somewhat the shape of depressed truncated cones: that nearest the rock rises to the height of about 15 feet, having its N. E. side higher than that to the S. W. The summit is tabular, slightly concave, and girt in by a low rugged wall, composed of semi-vitrified blocks of scorious ashes loosely piled together, and from 6 inches to 4 feet high, giving it the appearance of a small crater. Its longest diameter is 31 yards. The surface is covered with friable ashes of a light greyish-brown colour, on which lie a few angular fragments of granite, of a rude pottery, and a spheroidal nodule of greenstone, 3 inches in diameter, which on being fractured exhibited long radiating crystals of actinolite shooting through its internal structure. The sides of the mound are formed of masses of scorious ashes imbedded partially in the cineritious earth: its circumference, including a short talus, amounts to 202 yards.

I made two excavations in this mound:—the first commencing near the summit, exterior to the wall of ashes; the second from the centre of the summit down to the base. The first substance dug through was a layer of earth both of an ashy grey and whitish brown colour similar to that of *Búdigunta*, streaked with horizontal bands of brown hue, and of a soft chalky texture, portions of which were slightly unctuous to the touch. This layer, which was  $4\frac{1}{2}$  feet thick, contained thin seams of whitish ashes.

Below lay a bed of scorious masses, No. 1, 2, 3, and 4<sup>1</sup>, resembling those of *Búdigunta* and the Copper Mountain, in a state more or less of vitrification, mingled with whitish pulverulent ashes about 5 feet thick. This was succeeded by a layer of the ashy earth first cut through, No. 5, about a foot thick, in which were scattered a few black nodules, which from their weight, texture, and deflagration with nitre, were probably fragments of the charcoal often used in the fires of which these ashes are doubtless the result. Underneath followed a bed  $2\frac{1}{4}$  feet thick of a dark earth, which before the blow-pipe first reddened and finally fused into a greenish grey enamel. Below all lay a bed 3 feet thick of angular gravel, the detritus of the granite and greenstone rocks on which it rested.

<sup>1</sup> The numbers in this paper refer to specimens in the museum of the Royal Asiatic Society.

As these mounds have been considered by some persons of volcanic origin, I have entered a little more into the detail of the surrounding formation than might be deemed necessary: it may not be irrelevant, however, to add that all those that I have examined rest on the detritus of the surrounding rocks, which has, itself, the solid rock below for its basis. None of the scorixæ, except some of the most vitrified portions, resemble those usually thrown out by volcanoes, nor are any modern volcanic products, such as lava, sulphur, obsidian, pumice, &c., found in the vicinity.

All the ashy earths, and most of the less vitrified fragments of the scorious ashes, effervesce slightly with dilute sulphuric acid; and at first, as previously observed, I was inclined to consider them as the result of ancient furnaces for burning lime, but on referring them to Lieut. Lawford, the Engineer of the district, he informed me that no such ashes result from the native limekilns of the present day; an opinion corroborated by my own examination of them. Most of the cyclopean masonry of the walls of ancient Hindu forts and cities is executed without mortar, and the houses of the humbler classes were constructed entirely without it. For what use, then, were such enormous limekilns, even admitting them to be so? The present limekilns used by the Europeans in India, for the construction of their cantonments, barracks, hospitals, which are usually built of brick, or stone, and mortar, would leave but few traces, if neglected, ten or twelve years hence.

I examined also the brick-kilns, the pottery, iron, and glass furnaces of the Hindus. The slags of the three first are strikingly different from the scorixæ of the mounds, being heavier, not effervescent with acids, less vesicular, and of different shades of brown, red, and black. Portions of the glass frit resemble No. 3, but its general character is far more vitreous, fritty, less cineritious, and coloured with more varied and lively shades of green, and having no admixture of the soft chalky ashes.

Having found on many occasions some clue to the truth in the tradition of natives, extravagant and wild as at first sight they appeared, I made inquiries among the curnums and village elders of the localities; the results were traditions, all of a similar general stamp, viz. :—that the mounds of ashes are the burnt bones of the enormous giants or "*Rakshasas*" of old, immolated during the demifabulous periods of the *Mahābhārat*. All were agreed as to their great antiquity, and that similar ashes are no longer produced except by the burning of dead bodies.

On referring these legends and opinions to the Pundits of

Madras, they perfectly coincided in their general drift; and their president, Cavelly Venkata Lutchmia, added that the ashes are those of the funeral piles of heroes and other remarkable persons of antiquity; and some of great religious sacrifices performed by holy Rishis in their hermitages.

Following this clue I sought the recent funeral pyres of that caste of Hindus that burn their dead, and there found ashes strongly resembling No. 2. The harder and semi-vitrified portions were formed from the calcination of the bones; while the ashes resulting from that of the muscular and fatty matter, mingling with those of the charcoal and fuel, formed a soft whitish grey earth resembling No. 5, though not consolidated. In both the ancient and recent scorice small fragments of quartz may be seen imbedded; derived probably from the granitic soil on which the fires were kindled, and which, with the alkali of the wood ashes, have probably assisted the process of vitrification: for little doubt can exist that the cineritious and vitrified aspect of the substance composing the mounds, its highly vesicular structure, the result of gaseous extrication, have not been caused otherwise than by the agency of fire. Like the recent human ashes, they fuse before the blowpipe into a greenish grey fritty enamel; some of the less calcined portions giving out a distinct animal odour, though not equally strong in the ancient ashes. Both are often hard enough to scratch glass, highly vesicular, of various shades of green, brown, and white, and resemble each other in external configuration and internal structure. On the whole, however, the human ashes are of a lighter and less vitreous character, arising evidently from the less degree and continuance of heat to which they were exposed, and from the circumstance of the bodies at the present day being generally burnt singly on separate pyres. It often happens, among the poorer classes, that sufficient fuel is not provided for the entire consumption of the corpse. I have seen portions of the skull, and larger bones of the human frame, not only left unburnt, but even with portions of the muscles and tendons adherent, lying near the expiring embers, a prey to the squalid vultures and kites that usually hover around these dreary spots, hardly to be scared away from the horrid repast.

The greater weight, density, and higher state of vitrification of the scorious ashes of the mounds, may be accounted for by the greater intensity of heat under pressure to which they were subject. For if we are disposed to admit there are gleanings of truth in the tradition of the Hindus, that these ashes are really animal remains; or if, after a more minute analysis than I have the means of

rendering, they prove to be what they certainly most resemble, it is apparent from the density exhibited in the section of the mound opened, the large size of the masses of the scorïæ, and their state of vitrification, that they must have been the result of one, or perhaps two, enormous and long-continued fires. It is quite certain they cannot be the ashes of individual funeral piles collected into heaps: the latter are rarely aggregated into masses more than six inches long; and it may be added that the mounds are almost always found in sequestered spots at a distance from any town.

The ashy earth accompanying them shrinks and emits a peculiar and disagreeable odour when subjected to a red heat; it fuses, *per se*, before the blowpipe into a whitish blebby enamel. The less vitrified portions of the recent human scorïous ashes effervesce feebly with acids: owing perhaps to the free lime, which exists, according to Berzelius, in the proportion of about 10 per cent. in calcined human bones, having attracted carbonic acid from atmospheric exposure; a remark equally applicable to the ashes of the mound and to limestone from which the carbonic acid has been expelled by fire.

Since the above was written, Mr. Davies, of Manchester, who has kindly examined the scorïæ of the ancient mounds, has discovered phosphoric acid with lime in two of the three specimens sent him for analysis: a fact which leaves but little doubt of their animal origin.

With regard to historical evidence, Hindu records are silent on the subject of these mounds, beyond mention of some of the places to which their proximity has given name. It is, however, a well known fact, that many of the ancient tribes of India burned their dead, as is practised by some castes of Hindus at present, and we are informed in the *Parasu Rama Vijaya*<sup>1</sup> of women consuming themselves, *en masse*, on the same pyre with the bodies of their husbands slain in battle. The women of a whole aboriginal tribe are represented, in an old Tamil record, as causing a great pile of fire to be kindled, into which they leaped, and died execrating their enemies, the Hindus, who had cut off the males of the tribe to a man by treachery.

While it seems more than probable that the most considerable of these mounds are the ashes of the slain, burnt collectively after some battle field,—monuments perhaps of the bloody struggles that took place between the early Brahmanical settlers in Southern India and the savage aborigines, handed down in the records of the former as *Rakshasas*, giants, and demons,—still, in justice to the opinions of

<sup>1</sup> Taylor's Report on Mackenzie MSS., *Madras Journal*, for April, 1838, p. 355.

the Pundits, I must admit, though reluctantly, the possibility of some of them being the remains of great sacrificial holocausts performed by the Rishis of old in their solitudes, since the ancient annals of the country abound in allusions, both to bestial and human sacrifices (*Meria puja*) on a fearful scale of magnitude, made for the attainment of supernatural power, for the discovery of hidden treasure, in propitiation to malign spirits, and to the deities supposed to preside over agriculture and commerce<sup>1</sup>. In the *Chola pura Patayam*<sup>2</sup>, Kachi Vira Kamachi, one of the confederates against Salivahana, the Jaina Sovereign of great part of India, and founder of one of the celebrated Hindu eras, appears as a negociator with the local *Durga*, and promises her 1008 human sacrifices from the people of his tribe. In the *Káli-amma-párvotaram*<sup>3</sup>, a record of Madura, Nijangaráyen is mentioned as having sacrificed 1000 elephants, and 1000 sheep to *Káli*; and in the *Bhagavata Purána*<sup>4</sup>, Prithu is said to perform 99 horse sacrifices (*asvamedha yágam*). One of *Prithu's* grandsons made a sacrifice for 1000 years, and another is represented as having made the whole world a sacrificial plain. Other instances of the magnitude of animal sacrifices among the ancient Hindus are not wanting; but, in the wish to abridge this paper, already too long, I refrain from citing them.

I cannot conclude, however, without observing that while the natives of India have been singled out as the subject of severe reproach for the waste of animal life in such offerings, it is often forgotten that similar sacrifices have been made by the priests of the most enlightened nations of the earth; especially during the darker periods of the fitful history of mankind. Witness the Druidical human sacrifices in our own land, not many centuries before the great Alfred; the human sacrifices of Egypt; the great sacrifice of Solomon<sup>5</sup>, perhaps the largest on record in the world, of 22,000 oxen and 120,000 sheep; the sacrifices to the manes of the dead, familiar in the history of the nations of northern Europe, and the nomade hordes of Tartary; and the hecatombs and holocausts of the Greeks and Romans. According to Herodotus<sup>6</sup>, Cræsus attempted to propitiate the divinity at Delphi by costly sacrifices; among others, by one of 3000 of each kind of animals. Charges have been made

<sup>1</sup> Vide Mackenzie MSS., *Madras Journal* and Dubois's works.

<sup>2</sup> ditto ditto for April 1838, p. 279.

<sup>3</sup> ditto ditto — October 1838, p. 246.

<sup>4</sup> ditto ditto ————— pp. 225, 226, 228.

<sup>5</sup> 2 Chron., c. vii. v. 5.

<sup>6</sup> Clio 50.

against the Karadi Brahmans, as also against the Jews of Damascus, for human blood shed in performance of certain mysterious rites; but in neither instance clearly proven. Human sacrifices, it is certain, still obtain among the Khoonds; but this horrid custom, I am happy to observe in a recent paper, is in a fair way of being entirely rooted out by the vigorous measures of Lord Elphinstone.

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ART. XV.—*Notes on the Sabhá Parva of the Mahábhárata, illustrative of some Ancient Usages and Articles of Traffic of the Hindus.* By PROFESSOR H. H. WILSON.

(Read March 5, 1842.)

THE subject of the Sanskrit poem called the Mahábhárata is well known to be the struggle for supremacy between two kindred and rival families, those of Pándu and Kuru. The event is in all probability historically true, and the circumstances related in the poem, however blended with fiction and coloured by mythology, are in many instances likely to be substantially authentic. It is, however, in the episodical portions with which the poem abounds, that information of a curious and no doubt, in the main, correct description, relating to the social and political state of India, at periods considerably anterior to the Christian æra, is to be found. The information, it is true, is of a mixed character, as might be expected in a professedly poetical composition, and in a work which has very possibly been from time to time corrupted by comparatively modern interpolation. Still there is much that wears the semblance of accuracy and antiquity, as in the instances which I propose to bring to the observation of the Society.

The second book of the Mahábhárata is entitled the Sabhá or the Palace, and narrates the transactions that took place at the palace of Yudhishtira, the eldest of the Pándu princes, in consequence of his claim to be acknowledged paramount monarch, and his celebration of the Rájasúya sacrifice; a privilege and proof of such exalted rank having been attained.

As, preparatory to the pretensions of Yudhishtira, his brothers depart in various directions to compel the princes of India to recognise his title and pay him tribute, the details of their incursions are full of interesting notices of the geographical and political divisions of India, but it is unnecessary to expatiate upon them at present, as they have been made ample use of in the full and important investigations of Professor Lassen, published in the Gottingen Oriental Journal. It is sufficient to remark that the conquests of the Pándu princes bear the same character that has commonly attended the military operations of Indian states, in which, even when successful, the total subversion of the subjugated principality by no means followed its subjugation; and the victor usually contented himself with

present plunder and nominal future submission. Both the Mogul and the Marhatta have been satisfied to levy such tribute as they could exact from the Rájput princes, and to leave them in the possession of their hereditary dominions. The like supremacy is the only one perhaps ever enjoyed by their Hindu predecessors, and although at times the supremacy of some one prince may have been widely admitted in terms, or even by the more palpable evidence of presents or of tributary payments, yet there is no reason to believe that any one monarch ever exercised more real authority over all India, than is here attributed by the author of the Mahábhárata to Yudhishtira.

The military progresses of his brothers being attended with complete success, and his kinsmen, notwithstanding their jealousy, acquiescing in his claim, Krishna also, his great friend and ally, concurring warmly in the proposed ceremony, Yudhishtira issues his commands to his ministers and priests to make the requisite arrangements for the ceremony, and to invite guests from all quarters. The preparations are described in very extravagant style. Of course the principal guests are Brahmins and Warriors; but it is worthy of remark, that the invitations are extended to respectable Vaisyas, and to Sudras universally; the agricultural and servile classes thus having their due consideration even at a ceremonial of a religious as well as of a political tendency. This is one of the numerous indications which the Mahábhárata offers of a state of public feeling and possibly of civil institutions which seems to have preceded even the laws of Manu. The poem, however, so far conforms to received opinions that at the actual sacrifice no Sudras, it is said, were present. It is not impossible, however, that the passage so excluding them, belongs to a later æra. In all other respects no difference is specified, and food, dwellings, and entertainments, are provided for all the castes without any distinction.

The poem does not contain any detailed description of the solemnity. Oblations are made to the gods as usual, and the rites are conducted and prayers recited by the most eminent of the traditional teachers of the Hindus, particularly by Vyasa and his disciples—the founders very possibly of a school that first gave consistency to the system of the Vedas in the time of the Pándava sovereignty. The essential part of the ceremony is the unction, or more properly sprinkling (*abhisheka*), of Yudhishtira with water from sacred streams, which is said in one place to have been performed by Dhaumya, the family priest, assisted by Vyasa and other sages; and in another by Krishna. Kindred and tributary princes discharge various offices both before and at the consecration, not quite of so



servile an order perhaps as prevailed in the feudal times of the west, and of which our language still preserves so many vestiges, but still of a subordinate description. Thus, Duhsásana, one of the Kuru princes, superintends the distribution of food. Asvattháman, a warrior Brahman of saintly descent, acts as chamberlain for the Brahmans, and Sanjaya, the charioteer of Dhritaráshtira, is master of ceremonies to the regal and military guests. Bhíshma, the great uncle of Yudhishtira, and Drona, a sage and his instructor in arms, act as judges and umpires to correct whatever may happen amiss. Kripa, another saintly personage, examines and distributes the money and jewels to be given as presents. Vidura, the prince's uncle, is cashier, and Duryodhana, the eldest of the rival family of Kuru, and the most inveterate enemy of the Pándava princes, is appointed to receive the articles brought as tribute or presents by the different tribes and princes. Krishna, demigod though he be, volunteers to wash the feet of the Brahmans.

At the season of inauguration the duties assigned to the several chiefs and princes are of a more personal and martial description, Bahlíka, king of Balkh, presents and guides a war chariot inlaid with gold. Sudakshina, king of the Kámbojas, harnesses to it white Kámboja horses. Sunítha attends to the step or fender of the car. The king of Chedi holds the banner. The king of the South bears the armour. The sovereign of Magadha the turban and wreath. Vasudána brings the royal elephant. The king of Matsya the baggage-waggon. Ekalavya holds the slippers. The ruler of Avantí bears the water for the inauguration. Chekitána carries the quiver. The prince of Kási the bow. Salya, king of Madra, holds the sword. Sátyaki, a prince of the Yadu tribe, raises the umbrella. The two eldest brothers of Yudhishtira attend upon him with fans or punkas, and his two youngest brothers wave the chowries over him. Krishna, as above noticed, pours the holy water upon him from a sacred conch-shell. We have here, therefore, a description of duties and of paraphernalia, still to be witnessed at the courts of some of the native potentates of India.

It is, however, in the accounts given of the articles brought as tribute, that some of the most curious passages of this section of the Mahábhárata occur. That the things presented are in all cases accurately appropriated to the people by whom they are offered, or to the countries whence they are derived, cannot be positively affirmed. It is very likely that the author of the passage was himself imperfectly informed in some cases, and that he was not very careful in any, to be unexceptionably correct. In some instances,

however, it is possible to verify his statements, and that we cannot extend the verification to others is also, in part at least, to be ascribed to our own want of an intimate knowledge of the countries adjacent to India, and of their natural or artificial productions.

The people of Kámboja, it is said, brought cloths and skins; the former were made of wool, and embroidered with gold, being in fact shawls and brocades; the latter were the skins of animals that live in holes, and of wild cats, intending probably furs of varieties of the marten and weasel families. The Kámbojas also presented horses, said to be partridge-spotted and parrot-nosed, and camels and mules.

The Kámbojas are a people of whom frequent mention is made in Sanskrit writings. Their precise situation, however, is not defined; they are placed amongst the Mlechchas, or barbarous tribes of the north-west, and commonly classed with Sakas, Daradas, Húnas, and the like<sup>1</sup>: as in the Vishnu Purana, it is said of Sagara, that he threatened to destroy the Sakas, the Yavanas, the Kámbojas, Páradas, and Pahnava<sup>2</sup>. Colonel Wilford placed the Kámbojas in Arachosia, but they seem to have been situated more to the north, as after subduing them, king Lalitáditya is said in the chronicles of Kashmir to have proceeded against Bokhara. From this, as well as the articles they are described as offering, it seems likely that they occupied the Paropamisan mountains, and the plains to the northward, which are still famous for their breeds of horses. Whether these are characterized by any peculiarity of colour, and by convex or aquiline profiles, I have not had an opportunity of inquiring. The tribe may perhaps have subsequently extended to the east, as we find traces of the name in the Hindu Kush, a part of the Kafirs bearing the appellation of Kaumojees, which we can scarcely doubt to represent the ancient denomination of Kámbojas.

In this and in succeeding instances, furs and skins make a conspicuous figure amongst the presents; articles we should have thought little in request amongst the Hindus, whether we consider the climate or their prejudices. That they did wear dresses of skins, however, we know from unquestionable authority; as Manu prescribes the skins of various kinds of deer, for the upper garment of the religious student of each of the three first castes. Perhaps this kind of costume supplies grounds for an inference in confirmation of the northern origin of the Brahmanical Hindus.

“The people of Maru Kachha brought horses born in the Gaudhára country.”

<sup>1</sup> Vishnu Purána, 194.

<sup>2</sup> Ibid. 374, n.

There is no difficulty of verification here. Kachha is any frontier country bordering on the sea, and Maru is any arid tract of country. We have here, therefore, no doubt the people of Kutch and Sindh, amongst whom it is well known a powerful breed of horses is reared, originating, it would appear from this passage, in the districts somewhat more to the north, or towards Kelat and Candahar.

Next to these came tribes described as subsisting upon rice growing independently of irrigation, and dwelling on the sea shore, and along the Indus. They are called Vairámas, Abhíras, Páradas, and Kitavas ; amongst whom we recognise the Abhíras as the Abhirs or Ahírs still of Guzerat, and the people of the Abiria of Ptolemy, in a similar locality. Their tribute consisted of goats, sheep, oxen, asses, camels, honey the produce of fruits, and blankets of various manufacture. The cattle of Guzerat, it is well known, are still remarkable for size and beauty. What particular product is meant by the fruit-generated honey, as distinguished from that produced by bees, I am not able to specify ; some saccharine extract or exudation is probably intended.

“ The sovereign of Prágjyotísh, the mighty monarch of the barbarians, Bhagadatta, along with the Yavanas, brought Ajaneya horses, vessels of iron, and swords with hilts of ivory.”

Prágjyotísh as synonymous with Kámarúpa is usually identified with Asam, but as connected with the Yavanas it must be looked for to the west, not to the east. Professor Lassen has discussed its position at some length, but without coming to anything more than the general conclusion that it must have been to the north of the Himálaya, and agreeably to some notices, bordering upon Tibet. The articles presented by the king do not enable us to identify its locality. The horses it has in common with other trans-Indian districts. Iron vessels are made (Moorcroft says cast) at Fyzadad in *Badakshan*. Whether ivory sword-hilts are fabricated in the same direction, remains to be determined.

We next have tribute brought by monstrous and deformed races, such as men with one foot, with a third eye, and the like ; the prototypes of similar races described by Ctesias and Herodotus as inhabitants of the countries to the north of India, and originating probably in the uncouth and squalid appearance of the barbarous tribes of the mountains. They bring asses with black necks and large bodies from the banks of the Vankshu river ; a name, it may be observed, not unfrequently read Chakshu, or Chakshus, and considered with some probability to be the Oxus, as it is a river running to the west, and rising on the north of the Himálaya. They bring

also silver and gold, and wild horses of various colours. Asses and horses, wild and in great numbers, are still known to rove at large over the central table-land of Asia, migrating from north to south, according to the season.

Other mountain tribes, together with Sakas, Tukháras, and Kankas, brought cloths of various kinds, not made of cotton, but of the wool of sheep and goats, or of thread spun by worms, or of patta (vegetable fibres or hemp), or made by machinery (woven?); also soft sheep skins, long and sharp swords, javelins, spears, hatchets made in the west, battle-axes, also drugs and gums of various kinds, and precious stones.

The Sakas we know are the Sacæ or Scythians, who, according to both Greek and Indian geographers, occupied from the earliest times the countries east of Turkestan, and between the Jaxartes and Oxus, as Ferghana, Durwaz, Hissar, down to Kunduz and Badakshan. The Tukháras no doubt gave their name to the Tokharestan of the Mohammedans. The other races alluded to are of course in the same vicinity. That some of the nations in this situation had early acquired considerable skill in manufactures is confirmed by the Chinese writers. The people of Kipin, the Tiao-chi, and the Asi tribes, conterminous with Sogdiana and Bactriana, are described as "an industrious race, who are skilful in architecture and sculpture, in weaving and embroidery, in the fabrication of vessels of gold, silver, copper, and tin. The country produces cattle with humps, buffaloes, elephants, dogs, monkeys, and peacocks; precious stones, coral, amber, rock crystal, and glass. The land is fertile in grain, rice, legumes, and produces cinnabar, balm of Mecca, tsing tai, tsing mou, and other fragrant substances; also rock-honey, black salt, assafœtida, and myrrh<sup>1</sup>;" particulars that harmonize completely with the specification of the tribute offered by these trans-Himalayan nations to Yudhishtira. The Chinese descriptions refer to the middle of the second century before the Christian æra; a date which there is every reason to believe approaches that of the composition of the greater portion of the Mahábhárata.

The princes of the eastern tribes brought large elephants and horses, and much gold and curiously-wrought seats and litters, and beds made of ivory and inlaid with gold and jewels; also suits of armour, weapons of various kinds, war-chariots hung with tiger-skins and decorated with gold, different sorts of arrows, and housings for elephants.

Who are meant by the princes of the East is undeterminable, and

<sup>1</sup> Nouv. Mélanges, i. 211.

whether restricted to India Proper, or carried beyond its boundaries, is doubtful. In the latter case China might supply the fabrics specified, but they might also be furnished by the people to the southwest of Indraprastha, ancient Delhi, the capital of Yudhishtira, by the skill of the people of Benares, Behar, and Upper Bengal.

One of the most remarkable passages of this description next ensues, and explains, most satisfactorily, the origin of the extravagant fables related by Greek writers, respecting the gold-making ants of the auriferous deserts of Northern India. It is said that "the people who dwell under the pleasant shade of the Kíchaka-vénus, a kind of willows, and along the Sailodá river, between the Meru and Mandara mountains, who are called Khasas, Pradaras, Páradas, Ekásanas, Arkas, Kulindas, Tanganas, and Paratanganas, brought to Yudhishtira lumps of gold a dróna in weight, of the sort called paippílika, that is to say, ant-gold; which is so denominated because it is exfodiated by pippílikas, that is, by the common large ant." We have here the expression of a belief which we know to be prior by more than five centuries to the Christian æra, and which, however erroneous, was neither very extravagant nor irrational. This simple and archaic notion, however, was perverted by the credulity of writers and misrepresentations of travellers, until in the form in which it reached Asia Minor, it had grown into a monstrous and incredible absurdity. The scene in which this ant-gold is found is the same generally as that inferred from the Greek writers, the country between the Himálaya and Kuen-lun ranges, towards Tibet; which ranges the semi-fabulous mountains of Meru and Mandara represent. The names of the tribes commonly occur as those of barbarian mountaineers; and that *their* country is intended, as here intimated, is confirmed by the other articles which accompany the ant-gold; drugs, dried flowers, honey from the fruits of the Himálaya (a sort of sugar, perhaps, like that made in Turkestan from grapes), honey and wax made by bees, and yaks, the chowrie-tailed cow, with tails either white or black, a variety that has a real existence in the countries where the yak is native, and which are those between the Himálaya and Tibet.

Again, in the eastern portion of the Himálaya, the people from the banks of the Lauhitya river bring sandal wood, agallochum, the fragrant wood called kálíyaka, skins, female slaves, curious foreign birds and beasts, and gold collected in the mountains.

These are the principal details. There are other tributes of a more general nature, but in some instances faithfully characteristic of the countries whence they are said to come: thus the people of Banga,

Pundraka, and Kalinga, that is, of Lower Bengal, Midnapur, and Ganjam, presented elephants with large tusks and rich caparisons; the people of Chola and Pándya, or the Carnatic and Mysore, offer sandal ointment in vases of gold, aloë-wood, sandal-wood, fine linen, and precious stones; and the natives of Sinhalá or Ceylon, brought the gem vaidúrya, which is the product of the sea (perhaps coral), elephant housings, and heaps of pearls.

Such are the principal details found in the Sabhá section of the Mahábhárata, regarding the articles, the products of nature and art, which are offered as presents to Yudhishtira, by the nations bordering upon the country of the Hindus, especially by those inhabiting the mountains on the north and north-east of India, and the regions immediately beyond them; and however concise and imperfect they may be, and although they are the notices of a poetical, not of a statistical writer, yet they furnish some interesting information regarding the state of trade and manufactures in Central Asia, at a remote æra. A comparison between the Hindu and the classical accounts shows clearly that they both refer to a similar period, and as the latter, beginning with Herodotus, are as remote as the fifth century before our æra, the former must be still more ancient. They assumed their present shape very probably somewhat later; but the substance is old, whatever may be the period of the form, and we may venture to conclude from the premises thus furnished, that prior to the fifth century before Christ, an active commerce was carried on between India and its neighbours, in which the former was supplied with the precious metals, with gems, with aromatics and drugs, with manufactured skins, furs, brocades, woollen and silk cloths, with arms and armour, and various fabrics of iron, wood, and ivory; in return, no doubt, for its staples of rice, cotton, sugar, salt, and for those cotton manufactures which, after a triumphant career of nearly three thousand years, have been in our days utterly annihilated by the power of steam.

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ART. XVI.—*Experiments on the Dhak Gond, a natural Exudation of the Butea Frondosa.* By Mr. E. SOLLY, Jun.

THIS substance, which although it differs in some particulars from the Kino which is found in the shops, yet as it agrees in its most important properties with what has so long been described under that name, it is most convenient to call it *Butea Kino*.

It is of a brilliant ruby red colour, transparent, and very brittle. It consists principally of small round tears, and other fragments, which from their form appear to have been detached from the lesser branches of the tree. When it has been kept for some time, it becomes opaque and dark coloured; this however may be prevented, according to Dr. Roxburgh, by preserving it in well-closed bottles. I have examined two specimens of this substance, one brought over by Mr. Beckett, and the other received from Bombay. There was considerable difference between the two, but from their properties it was evident that they had been originally similar. The following description is equally applicable to both specimens, except where it is otherwise stated.

When exposed to heat, the *Butea kino* swells up, emits fumes which are partially inflammable, and then ignites; if after that it is removed from the source of heat, it continues to glow like tinder, until nearly wholly consumed, a very small portion of a white ash only remaining. Ten grains of the kino, carefully selected as to purity, were ignited in a covered platinum vessel, and retained at a red heat until all the carbonaceous matters were burnt; there then remained 0·45 grains of white ash, a very small portion of which was soluble in acids with effervescence, the remainder consisted principally of silica and alumina. The specimens of *Butea kino* were far from being in a state of purity, being mingled with small fragments of wood, bark, and also with earthy impurities: these were evidently derived from the mode of collection, which most probably consisted in gathering from the ground under the trees the fragments of the natural exudations which had fallen from them. The impurities in the specimen brought over by Mr. Beckett varied from 12 to 25 per cent., of which from 4 to 6 were earthy; that from Bombay contained in general far more impurities.

It swells and slowly dissolves in the mouth, having a pure, strong astringent taste, like the finer kinds of catechu. It has no smell.

In cold water it swells, and slowly imparts to it its fine red colour; after some time only the outer portions of the kino remain, which by exposure to the air had become dark coloured and almost insoluble in water, whilst the whole of the interior and unaltered kino is dissolved. These insoluble portions consist principally of difficultly soluble extractive. A sufficient quantity of boiling water dissolves the whole, and on slowly evaporating the solution, the difficultly soluble extractive separates in tough red films<sup>1</sup>. The quantity of this extractive of course varies considerably in the two specimens, and influences their solubility. The Bombay variety is far less easily soluble in water, and clear solutions are much more difficult to obtain when made with hot water; they are very apt to become turbid, and, if strong, gelatinise on cooling; and if the water contained any saline or earthy substances, this was almost certain to take place. From these circumstances it is rendered very probable that the sample from Bombay had been exposed to the air for a longer time than the other; it was most likely collected at another period of the year, after having remained exposed to the air, damp, and light, for some time. From the description of the properties of the exudation when fresh, and only just become hard, as given by Dr. Roxburgh, in 17—, it is evident that it should be only collected at that period, as it is then far more applicable to useful purposes, whether in medicine or the arts, than after exposure to the air, &c. Both alcohol and pyroligneous spirit dissolve a considerable portion of the Butea kino, but far less than water. Ether dissolves but little, and remains colourless; when a portion of ether is agitated with a strong aqueous solution it soon becomes thick, and, on evaporation, yields a considerable portion of tannin.

A small quantity of persulphate of iron changes the colour of the aqueous solution to a dirty green; a rather larger quantity occasions a copious green precipitate.

A series of experiments were made on the effects of various reagents on solutions of this kino, with a view to ascertain which were the best precipitates of the red colour, either for dyeing, or as a pigment.

Solutions of most acids, and acid salts, changed the colours to a light orange, and for the most part occasioned copious precipitates; they were nearly all of a dirty yellow or orange colour.

When a few drops of a strong solution of caustic potassa were added to the aqueous solution of the kino, the colour was immediately altered, and very much improved, becoming of the most

<sup>1</sup> This also takes place with the kino of the shops.



splendid crimson; when however a little more of the solution of potassa was added, the colour rapidly became gray, and a copious precipitate fell. It very quickly became dark reddish gray, and nearly the whole of the colour was destroyed. Caustic soda and ammonia likewise improved the colour in the same way. When acids were added to solutions thus precipitated, so as just to neutralise the alkali, some of the precipitate redissolved, and the rest became orange. Carbonates of potassa and soda both very much deepened the colour of the solution; it was however not to be compared in beauty of colour with the solution obtained by the addition of a small quantity of caustic potassa, and had a slight brown tinge. In general most saline solutions occasioned precipitates which were either pink, gray, or colours between the two. Acetate of lead, as well as several other metallic solutions, precipitated the whole of the colouring matter. The precipitate obtained by adding a solution of alum either to a neutral solution, or to one containing a small quantity of alkali, was of a dirty pink colour. When gelatinous or recently precipitated alumina was agitated with any of the highly coloured solutions, it soon abstracted all the colouring matter, but the lake so formed was, like those formed by precipitation, of a dingy colour. The precipitates formed by metallic solutions were of very variable hues, but in no case were the colours so obtained decided or brilliant. Attempts were likewise made to fix the colour in the fibre of cotton, silk, wool, &c., in various ways, and with different mordants; the colours were all imperfect, dingy, and variable in colour, but they were very permanent. This agrees with the results obtained by Dr. Roxburgh, but as his experiments were made on the fresh substance, they were under more favourable circumstances. The cause why these colours cannot be well employed is, that the red colouring matter is so intimately combined with the tannin and gum, that whenever the one is precipitated, it carries down the other also, and hence, when we endeavour to precipitate the tannin alone, the red colour or extractive is always precipitated with it: this, as will presently appear, is in some cases a great inconvenience.

A solution of gelatine produced, in aqueous solutions of the *Butea kino*, an abundant precipitate of tanno-gelatine, which always contained a portion of colouring matter: this varied very considerably between the two portions of kino, that from Bombay containing by far the most: when a solution of the kino from Mr. Beckett, either in cold water, or still better in alcohol, was precipitated, the tanno-gelatine contained very little colour. The solution, after the separation of the precipitate, contained gum, extractive, gallic acid,

and minute portions of other matters: the quantity of gallic acid was very various, but in no case did it appear to exist in any considerable proportion.

It was difficult to ascertain the exact per centage of tannin, as it varied very much in different specimens submitted to examination. I have therefore repeated the experiments on several portions, and shall now give the mean of some of the best results obtained.

One hundred parts of the rough kino from Mr. Beckett were dried for 6 hours at a temperature of about 130° Fahrenheit: they lost 13·23 parts of water. Much of this water was derived from the wood, bark, and impurities, for the pure substance when separated was far less hygrometric. The kino thus dried was digested in water kept nearly at the boiling point, until a strong solution was made; this was then poured off, and the process repeated with fresh portions of water, until all the matters soluble in that fluid had been thus removed. The residual matters, consisting only of impurities, weighed 17 parts. The solutions were then rapidly evaporated to a considerable degree of concentration, during which 3·5 parts of difficultly soluble extractive fell down. It was necessary to complete this evaporation as rapidly as possible, because if the hot solution was long exposed to the air, it became much darker coloured and was somewhat altered in properties. The solution was then precipitated by a strong solution of gelatine, of which 28·3 parts were employed. The precipitate, when collected, washed, and carefully dried, weighed 79 parts; by subtracting from this the weight of the gelatine employed, the proportion of matter precipitable by animal jelly is ascertained to be 50·7. This was of course principally tannin, but it contained a portion of coloured extractive which gave to it a dark colour, varying in depth with the circumstances under which the solution was made, &c. The remainder of the solution, after the separation of the tannin, was evaporated; it contained gum, a small quantity of gallic acid, extractive, and minute traces of saline and earthy matters, weighing in all 15 parts. The Bombay kino contained less tannin and rather more gallic acid and extractive, and by long continued boiling with free access of air, the composition of either kind might be easily modified. If this substance were to be employed in the arts, it would be very probably most convenient to obtain it as an extract, unless by so doing it became much darker in colour. By dissolving the tannin by cold water, I have obtained extracts in which the per centage of tannin was as high as 75, and sometimes even higher; but these extracts were made under the most favourable circumstances, being prepared

with rapidity and the least possible exposure to the air. It would be utterly impossible to manufacture the extract in the large way in this manner, if the causes above mentioned do not prevent it, but it might very probably be advantageous to prepare the kino of the *Butea* as an extract, as the cost of freight would be therefore less.

From the large per centage of tannin which this substance contains, as indicated by the above experiments, and from its probable cheapness, it promises to be of considerable value in the arts, and especially in that of tanning leather. As a substitute for the astringent substance now in use, its adoption in many cases from convenience or economy are self-evident, and require no comments; but in the art of tanning leather so many points require to be considered, that it is necessary to say a few words on that subject. On putting a piece of pelt or prepared skin into a strong solution, it soon absorbed a considerable quantity of tannin, but, at the same time, became of a rather dark colour; this is an unfortunate quality, because, as the consumers of leather judge of its quality in part from its colour, the tanners do not like employing anything which deepens the colour too much. The colour taken up by the leather of course varied with the solution employed, a cold solution of the kino from Mr. Beckett giving a much lighter coloured leather than a hot-made solution; that from Bombay gave a darker colour, and the solution was very subject to gelatinise and become turbid; this of course would be a great inconvenience. The leather tanned with this kino was very hard and rather brittle, but it was tanned with considerable rapidity. These results were obtained on small pieces of thin skin, and I do not anticipate that it will answer at all for tanning such skins: its richness in tannin, however, promises well for tanning thick hides; and the results of experiments on its application to this process now in progress will be communicated on a future occasion.

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ART. XVII.—*Mineral Resources of Southern India.*—No. 1.  
*Copper Districts of Ceded Districts, South Mahratta Country,  
 and Nellore.* By LIEUT. NEWBOLD, F.R.S., &c.

(Read February 19, 1842.)

THESE are some excavations, said to have been made under the direction of Hyder, on the lower ridge of the copper mountain range in the Ceded Districts, five or six miles westerly from the cantonment of Bellary, in about lat.  $15^{\circ} 5' N.$ , and long.  $76^{\circ} 59' E.$ ; they were given up, according to native information, in consequence of the little profit yielded. The ore,—the green carbonate of copper,—I found in thin layers, filling up seams, and interlaminated with a slate-clay and slate, resembling the killas of Cornwall, which is associated with hornblende and chloritic schists, alternating with gneiss in conformable strata. The former contain thin veins of crystalline marble, and, with the gneiss, have been penetrated by large basaltic dykes. Bosses of granite are seen in the plain at the base. The highest peaks of the range are capped with a ferruginous cellular rock resembling laterite, and resting horizontally on the highly-inclined strata of the crystalline schists; it exhibits efflorescences of impure muriate of soda and sulphate of alumina; the latter resulting, probably, from the decomposition of iron pyrites which are occasionally found in this rock. Depositions of kunker are seen at considerable elevations, on the sides of the range, and often covering, in beds of variable thickness, the rocks in the plain. The excavations made in search of the ore are not of great magnitude, and must have been speedily given up. I was unable to detect any distinct lode. I have observed indications of a similar ore in the plumbiferous district of Jungumrazpilly, in the Cudapah Collectorate, Ceded Districts.

*South Mahratta Country.*—The third locality in which copper ore occurs is an alluvial one, viz., the sands of the Doni, a rivulet flowing from the Kupputgode hills in the collectorate of Darwar, whose geological structure resembles that of the copper mountain range. Besides copper ore (the carbonate), the sands contained a considerable portion of gold-dust, magnetic iron sand, traces of silver, platinum, and menaccanite. Beds of chert, used by the Moham-medans for gun-flints, occur in this range; and in 1839, I discovered a large vein of black manganese (associated with magnetic iron ore), which had been mistaken for coal. The whole of this

wild hilly district deserves a more minute examination by a competent geologist, attended by an intelligent practical European miner, since I have little doubt of its being the situs of the metals and ores found in the brook.

*Nellore.*—But the most promising copper country in South India is unquestionably that of Nellore, lying along the eastern base of the East Ghauts, and stretching northerly from the Pennaur to the Kistnah, between the 14th and 16th degrees of N. lat., and the 79th and 80th E. long. The principal mines are situate about thirty-six miles W. from the coast of Coromandel, and thirty-six N.N.W. from Nellore.

I shall now proceed to give a description of these mines as I found them in January, 1840.

Passing easterly from Cuddapah towards the sea, the spur of the Eastern Ghauts, on which the Jungamanipenta lead mines occur, is crossed to the valley of Budwail; thence, over the main range, by the Dorenál pass, the traveller descends into the plain of Nellore, and passes in a N.E. direction along the foot of the Ghauts, whose mural summits here attain, as I ascertained by trigonometrical observations, an average height of 702 feet above the elevated land at their base.

*Physioal Aspect of the Copper District.*—The country presents an undulating plain, extending from the foot of the Ghauts easterly to the Bay of Bengal, and studded with a few detached round-backed hills of gneiss, mica, and hornblende schists, rarely attaining a height of 250 feet above the level of the adjacent country. Its surface is furrowed by the channels of rills and streamlets which, during the monsoons, descend the mountain sides, and, collecting in the bed of the Pennaur to the southward, flow on easterly to the sea. The course of these streamlets indicates the general inclination of the plain, whose approximate heights, near the base of the Ghauts, at Kunchgarlaconda, I found, by means of the boiling-point of water, to be 835 feet above the sea's level.

It is covered with a dark red alluvial clayey soil, mixed with sand, partly washed down from the hills, and partly the detritus of the subjacent rocks. A few patches of a dark-brown vegetable mould, of a rich nature, are sparingly interspersed. The surface is in many places strewed with both angular and rolled fragments of quartz, flinty slate, nodules of kunker, hornstone, &c. The subsoil varies from a few inches to ten or twelve feet in depth; and, from its impervious and often saliferous nature, is sterile and neglected. Large tracts between Yerrapilly and Currumaldinny are almost

without a blade of grass. Nothing but the hardiest mimosas seem to have the power of life in those spots, where efflorescences of native subcarbonate of soda are seen, like thin sheets of snow, spread over the surface. Beds of kunker (nodular and compact carbonate of lime, containing a small proportion of magnesia, oxide of iron, silicious and aluminous matter) often form the subsoil, particularly in the vicinity of basaltic dykes. They appear to have been deposited by springs, rising up through fissures in the primitive rocks, and connected, probably, with the phenomena attending the intrusion of the dykes: to the agency of which may be attributed, in some measure, the great tendency to crystalline and metallic development observable in this district.

The temperature of the springs in this plain, in January, averaged  $80\cdot 1^{\circ}$  Fahrenheit—a temperature slightly exceeding, perhaps, the mean temperature of the air.

The vegetation is of a stunted character, owing to the sterility of the soil: irregular patches of low jungle, consisting chiefly of mimosæ, euphorbia, cassia auriculata, carissa spinarum, asclepias gigantea, Ixora parviflora, and the myrtle-like bushes of the bunder, are interspersed over tracts bristling with prickly spear grass. As the sea is neared, the monotonous aspect of the vegetation is relieved by the appearance of the graceful fan-palm, the tall cocoa-nut, and the odoriferous date-palm.

The vegetation of the valleys and lower parts of the Ghauts is of a more arboreous character than that of the plain, producing timber trees of considerable size, and wood adapted for the purposes of smelting. Among the trees I observed the *Dalbergia latifolia*, *Pterocarpus santalinus*, *Erythrina Indica*, *Mimosa Xylocarpus*, *Melia Azadirachta*, *Ficus Indica*, *Mangifera* and *Tamarindus Indica*: Teak, *Tectona grandis*, is also said to occur: the *F. Annona tripetala* is found in the wild state: the *Zizyphus jujuba* is common.

*Geognosy.*—The rocks in the plain comprise gneiss, mica, and hornblende schists, highly garnetiferous, alternating in conformable strata, and, in general, dipping westerly, at an angle of from  $20^{\circ}$  to  $70^{\circ}$ ; much disturbance in the stratification was remarked, especially near the mining districts. The gneiss embeds drusy crystals of actinolite, adularia, kyanite, schorl, cleavelandite, and asbestiform tremolite. The mica schist is generally of a silvery green hue, becoming reddish in disintegration, often highly splendid, with waving and contorted laminæ, between which, at the eastern base of the Udigherry Mountains, I observed a mineral of a carmine red colour, in shining opaque plates, sparingly interspersed.

Before the blow-pipe, *per se*, it curls up and fuses readily with intumescence and phosphorescence, into a white enamel: on charcoal, with phosphate of soda, it melts into a topaz-coloured glass, which, on cooling, becomes colourless: with borax, into a glass of a faint green tint, which also loses its colour in cooling. The mineral is softer than felspar,—streak, reddish white. The hornblende schist is of a highly crystalline character and passes into amphibolite; its colour dark green, approaching black; magnesite is said to be occasionally found in it. All these rocks are traversed by large veins of quartz, embedding rock crystal, both white and rose-coloured, actinolite, schorl, and garnets. Magnetic iron ore, sometimes associated with manganese, abounds in these veins, and in the embedding rocks. Conformable beds of a granular garnet rock occur near Gurumanipenta in the hornblende and mica schist, which, in the hand specimen, is liable to be mistaken for granular corundum, and might be advantageously substituted for emery in polishing stones, gems, &c. It often occurs in a nodular and crystalline form, assimilating dodecahedrons, or prisms, with three-sided summits; is associated with asbestiform tremolite, and adularia, and passes into quartzite. The most numerous and finest crystals of garnet occur in the gneiss: many assimilate essonite: colophonite, common in similar hypogenic rocks on the opposite coast, was not seen.

Granite is rarely visible, except in veins traversing the rocks just described: but basaltic dykes are very numerous, embedding acicular crystals of augite, and cubic iron pyrites, and passing into melaphyre. As a general rule, in the vicinity of these dykes crystalline development is observed to be at its maximum, more especially that of garnets. Near the line of contact, the micaceous portions of the rocks are hardened and consolidated, and the felspar rendered more compact, often approaching the character of petrosilex: the quartz remains unaltered. Eurite occurs in beds subordinate to the gneiss. The basis of the ghauts consist of the rocks just described, capped by sandstone, passing into petrosilex or hornstone, forming mural escarpments, facing towards the S. E., with tabular summits.

*Mines of Kunchgarlaconda.*—I shall now proceed to notice the excavations in detail, commencing with the most westerly, viz., those of Kunchgarlaconda. A little to the E. of Samulrayacotta, a low spur of the ghauts, running N. to W., is crossed, consisting of a bed of quartz in a leptinitic gneiss, alternating with mica schist. From this spur the mines take their name: they are

marked by heaps of rubbish, thrown out of a series of half-choked-up excavations, that run along and near the ridge. The ore here is the green carbonate: I picked up several fragments of malachite, from a lode about an inch thick in the quartz rock. The latter is, in some places, perfectly honey-combed, with small cavities, occasioned by the disintegration of the ferruginous mineral which formerly filled them, and which is still visible in the form of an orange-brown coloured dust, which blackens and becomes magnetic before the blow-pipe. Seams of a blackish iron ore, combined with manganese, and resembling graphite in external appearance, about one-quarter of an inch thick, were observed. The dip of the strata in this locality is  $48^{\circ}$  W.  $10^{\circ}$  N. A basaltic dyke, running nearly E. and W., is seen in the plain at the eastern base of the ridge, underlying a bed of kunker, ten feet thick. The mines were deserted. The locality offers great advantages, from its height and situation, for draining any shaft of moderate depth that might hereafter be sunk.

*Salighirry Mine.*—The old mine lies about half a mile S.W. from Gurumanipenta in the plain, but was nearly filled with water. A few paces to the E. of it a new shaft had been recently sunk by that spirited and intelligent British merchant, J. Ouchterlony, Esq., of Madras, to the depth of about ten feet, through a superstratum, a few feet deep, of dark-red alluvial soil, mixed with nodular kunker, ferruginous pebbles and fragments of the subjacent rock, which is gneiss abounding with mica. The lode runs through it, near a vein of quartz in a S.E. direction, dipping at an angle of  $70^{\circ}$  towards the N.E., about three or four inches thick. It presents a few patches of green carbonate of copper and reddish spots and cavities, technically termed "gossings" by the Cornish miner. A spring of water, oozing through the lode, had been met with about five feet from the surface, which, left to itself, fills the shaft with water to the depth of ten feet, in the space of twelve hours. The pump had unfortunately been broken, and the miners were constrained to keep the shaft clear with the buckets and windlass, which were used to carry up the excavated portions of rock.

Among the refuse of the old excavation, I found a fragment of gray sectile, malleable, sulphuret of copper, rich in metal. The surface of the recent fracture was rather flat and splintery, lustre metallic, and of a bluish-gray colour; externally, rusty brown. The fragment was coated partially with green carbonate of copper, and from its shape and dimensions was evidently a section of a continuous vein of rich ore, about half an inch thick.



The sands of the rivulets in this vicinity abound in fragments of garnet, actinolite, and schorl, embedded in quartz with large nests of a silvery foliated mica, hæmatitic and magnetic iron ore, magnetic iron sand, and liver-coloured iron pyrites. Gold dust is said, by the natives, to be found, though in minute quantities.

*Mines of Nila-gunni.*—There are three excavations about one-quarter of a mile southerly from the village of Gurumanipenta, beyond the two tanks in the plain. The nearest is the most considerable, but was filled with water, hence termed *Nil* or *Nila gunni*: its superficies is about fifty paces long, by four or five broad, and terminates in a circular pool about ten paces in diameter. Its longest diameter runs nearly N. and S. The superstratum is a bed of kunker, cementing fragments of the surrounding rocks, ferruginous nodules, &c., overlying the mica, and hornblende schist embedding the ore. Among the rubbish are many fragments of both mountain green and malachite, disseminated and in thin layers in quartz veins. Where the quartz is transparent the thin seams of ore intersecting it impart a green colour to the quartz itself, like coloured foils to the colourless crystal beneath which they are set. A few fragments of the rich sulphuret described already, are met with, associated with the carbonate. The two other excavations in this vicinity are of inferior depth, and nearly filled up. They were all deserted, and no signs of recent working apparent. The sides of the fragments of ore in the hornblende schist in contact with the matrix are generally coated with oxide or sulphuret of iron, and have a flat compressed appearance.

*Bungheral Metta Mines*—are situated on rising ground, about two miles N.W. from the village of the same name, lying between the junction of the Pilláp-eyrú and Upet-eyrú streams. One of the excavations is of great size, occupying an area of several hundred square feet, and having a depth of about forty-five feet. Mr. Kerr, who saw this mine several years ago, states that on clearing away the matrix rock, and rubbish that had accumulated in these immense tanks, the mouths of galleries extending into the rocks were discovered: but at the time of my visit they were no longer visible, in consequence of the accumulation of water. The ore is the green carbonate, occurring in a ferruginous gangue with the sulphuret, and in regular thin layers between the laminæ of the hornblende schist, also in thin vertical seams, often crossing the direction of the laminæ at right angles. The principal lode is about two inches thick, and can be traced to the water. The lamented James Prinsep, whose premature decease India must ever deplore, thought the

phenomenon of the ore alternating with the hornblende rock highly interesting in a geological point of view, as affording exactly the appearance of gradual deposition from a liquid, at this earliest period of geological formations. Mr. Prinsep formed this opinion from the hand specimens sent to him at Calcutta: had he seen the rock *in situ*, with seams of ore running through it in fissures, often at right angles with the other layers and lines of stratification, he would not have pronounced the ore to be coeval with the hypogenic rock embedding it, nor referred its occurrence to mechanical deposition from a liquid. Joints are observable in the hornblende schist, running nearly at right angles with the planes of stratification: it is also intersected by almost vertical fissures, indicative probably of subterranean disturbance; for, even at the present day, shocks of earthquakes are not unfrequent, and subterranean sounds are said to have been heard in the vicinity. The rocks are covered here with the usual superstratum of kunker, which has often penetrated and filled up the fissures and seams in the rocks. Schorl occurs in beautiful striated prisms with quartz and mica.

Near the Upet-eyrú stream, a shaft, having a gentle inclination, had been recently sunk into the gneiss by Mr. Ouchterlony's people, about six feet wide, five and a half feet high, and about sixteen paces long: it terminated at a bed of a white earthy rock, resembling kaolin, or porcelain clay, in a highly indurated state, into which I was unable to trace the continuance of the lode.

*Cumbaldinny Mines.*—On the opposite bank of the Upet-eyrú, at the distance of about two miles, lie the excavations of Cumbaldinny, only one of which I had time to examine, as night was fast closing in: the ore, the carbonate, occurred in thin seams and layers in the hornblende rock, from a few lines to two inches thick, and from two to eight feet apart.

*Yerrapilly Mines*—are about five miles N.E. from Gurumani-penta: one lies about a mile northerly from the hamlet of Yerrapilly, and the other about the same distance to the S.E. The former is an excavation about ten feet deep, having two feet of water at the bottom. It was probably opened by Dr. Heyne, as there were still visible two layers of ore, (both the sulphuret and carbonate,) stated by him to occur here. The rock cut into is gneiss and mica schist, overlaid by a bed of kunker, and embedding schorl, hornblende, actinolite, asbestiform tremolite, and kyanite. The other mine is a superficial excavation in hornblende schist: at a little distance is a bed of mica schist, containing a vein of tremolite, associated with adularia in pearly rhomboidal crystals. I could not

detect the ore here *in situ*, though water-worn fragments were scattered on the surface : garnets abound.

*Mines of Adimutipuram, &c.*—At Adimutipuram, a village a little to the S.E. of Yerrapilly, between it and Currumaldinnypaud, traces of copper ore, principally the carbonate, are found in the rubbish thrown out of two wells, one dug in the gneiss, in which the mica is replaced by innumerable garnets, and the other in a bed of hornblende rock, also highly garnetiferous. Staurolite, or prismatic garnet, cleavelandite, and tremolite also occur. About half a mile southerly from Currumaldinnypaud, on the bank of a small rivulet, rolled fragments of carbonate of copper are found in a heap of alluvial matter. This is the most easterly spot, according to the information of Gopaul, head Wudra of Gurumanipenta, where traces of the ore have been found, and this evidently not *in situ*. According to the same authority, excavations occur in the inau lands of Pota Bram Reddy, of Buchi Neddipuram, at Gutti Gondala, also at Agni Gondala, and Mudiymmala, one and a half gow from Innaconda, and also at Gogalapilly, five gows' distance from the same place. The last traces of copper to the eastward which I observed, were in the micaceous and quartz rocks of the Jungum, or point of confluence of the Pennaur and the Bogh and Beyrap-eyru streams, W. by N. from Nellore. Between Yerrapilly and Currumaldinny, and particularly near Adipuram, the surface of the soil is singularly mottled with large glittering crimson patches, which consisted entirely of comminuted garnet.

*Analysis of the Ores.*—The copper ores of Nellore have been analysed in England by Dr. Thomson, and more lately in India by the late Mr. J. Prinsep<sup>1</sup>, who was unable to detect the existence of silver in them, or other metal except iron. He found the sulphuret to be the richest : in his specimens it was combined with the carbonate, yielded 69 per cent. of pure metal, and had a specific gravity of 3·77, intermediate between that of the pure carbonate, 3·2, and the sulphuret, 4·5. Its chemical composition is thus expressed :—

Hydrated carb. of copper . . . . .	31·7
Sulphuret do . . . . .	63·0
Oxide of iron, silex, &c. . . . .	5·3
	100·

Its richness, he states, will more than compensate for the increase of trouble and expense in the reduction of the ore by successive roastings ; and practical miners assert, that the glance, or gray sul-

<sup>1</sup> *Asiatic Journal of Bengal*, vol. iv., p. 574.

phuret, is a much steadier and more plentiful ore than the carbonate. Dr. Heyne, it would appear, mistook this sulphuret for Dr. Thomson's anhydrous carbonate, new to mineralogy, said to have been obtained from this locality, and from which all the specimens examined by Mr. Prinsep differed materially.

The green carbonate, associated with quartz, yielded 30·2 per cent. of metal; its chemical constituents are as follow:—

Hydrated carb. of copper . . . . .	52·4
Sulphuret of iron . . . . .	2·1
Oxide of iron, silic., &c. . . . .	43·5
Loss, or excess . . . . .	2·0
	100·

The Bungheral Metta ore, consisting of carbonate of copper, running through a ferruginous matrix, in veins mingled with sulphuret of iron, and probably copper with the oxide, giving the whole a dark arenaceous texture, yielded 39·5 per cent. on the first analysis; but in a second experiment the copper actually recovered so much exceeded that quantity, that it was evident the ore frequently contained the sulphuret, or was of very variable quality; its chemical composition is as follows:—

Hydrated carb. of copper . . . . .	68·5
Sulphuret of iron . . . . .	12·4
Oxide of iron, silic., &c. . . . .	25·1
Loss, or excess . . . . .	6·0
	112·

The excess, Mr. Prinsep thinks, is owing to the irregularity of the rocky admixture in different specimens, whereof one yielded 44, and another only 13·9 of insoluble matter on digestion in acid.

*History.*—The origin of the most ancient of these extensive excavations is lost in obscure tradition; but the most respectable native authorities refer them to the ancient kings of the Bijanugger dynasty, within the limits of whose empire they were situated. They did not escape the notice of the Mogul conquerors after the downfall of the Hindu empire at the battle of Talicota, in 1564 A.D.; nor of the emissaries of Hyder and Tippoo; but of the manner of working them, process of smelting, and amount of produce, we have, as yet, no farther evidence than the magnitude of the excavations themselves, and the extensive mounds of ancient ferruginous slag and scoria, indicating the situation of the old smelting furnaces. Most of these mounds are covered with vegetation. A fragment of the slag analysed by Mr. Prinsep, yielded but faint traces of copper, showing that the native processes of extraction, however rude, were

effectual in completely separating the metal. Mounds of slag of iron furnaces, formerly uncommonly numerous in these districts, are scattered over the country, and must not be confounded with those of the copper furnaces. Iron is still smelted by the natives, though by no means so extensively as in ages past.

To Dr. Heyne, I believe, the merit is due of having first brought the copper mines of Nellore, about forty-seven years ago, under the consideration of the British Government, in an able report published in his tracts on India. About seven or eight years ago, Mr. Kerr entered into a speculation for working them, which failed, partly through mismanagement, but chiefly from want of capital and support. Late in 1839 they were again taken in hand by J. Ouchterlony, Esq., of Madras, who has judiciously established a practical Cornish miner on the spot.

*Concluding Remarks.*—The most promising localities are those of Nilagunni and Salighirry, particularly the former, where the richest ore, the sulphuret, exists in the greatest abundance: both, however, are subject to serious objection on account of the prevalence of springs, the draining of which would greatly enhance the expense of working. Those of Kunchgarlaconda are free from this objection, and the “gossings” there are favourable. The excavations at Bungheral Metta are first in magnitude, and being on a high bank, the base of which is washed by a river, can be drained with greater facility. The quality of the ore is good, and the principal lode distinct and clear: an immensity of labour has been there thrown away by the ancient miners; a tank has literally been cut in the solid rock, and, for the most part, through a dead country, where a shaft, six feet high, and as many wide, would have been amply sufficient. Nothing permanent, or certain, can be expected from the deposits at Adimutipuram and Yerrapilly, which are principally alluvial. The *situs* of the ore, however, cannot be far distant, judging from the little-worn aspect of the nodules. There is said to be a cavern at Kisten-*raya-conda*, but whether artificial or natural has not been ascertained: it should be examined as well as the range in the vicinity, where, I am informed by the natives, traces of copper have been discovered.

As a general rule, though there are many exceptions, it may be observed, that the metalliferous veins run in a direction from S.E. to E., and are more numerous near the junction lines of the alternating crystalline schists, or in the proximity of basaltic dykes: their dip is usually at a great angle.

The expenses of smelting cannot be very great, as charcoal is

sold at the low rate of three maunds for one anna: it is made principally from the wood of the Dewadári, the *Dalbergia latifolia*, the *Cassia auriculata*, and the *Asclepias gigantea*. The charcoal obtained from the last is used by natives with that of the common *Euphorbia* of the plains, in the composition of gunpowder: its green leaves and the dried wood of the *Cassia auriculata* are used in the conversion of iron into steel, by subjecting them for two or three hours to a red heat in a closely luted crucible, in contact with bar iron cut into small pieces. Timber for machinery is everywhere procurable, and sells at the cheapest rate: iron is also abundant. The ore yields seventy per cent. of metal, and is sold, after being stamped and washed, to the smelters, at from five to six rupees the candy of thirty maunds. The principal depôts are Yercul, Injimoor near Dotalúr, and Wootcoor, where the celebrated wootz steel is manufactured. The cocoa-nut trees near the coast afford an ample supply of coir for ropes. The population of the district is of an industrious character: that of Gurumany, or Gari-penta, which place may be considered as the capital of the mining area, contains chiefly natives of the *Upér* caste, whose business it is to dig wells and tanks. Ramapatam on the sea-coast, only thirty-eight miles distant, offers an eligible port for the embarkation of the ore or metal for Madras, (which lies about 110 miles S. S.E.), and other ports. Dr. Heyne hints at the practicability of navigation of the river which runs by Gurumanipenta, but from what I saw of this stream, I should recommend a more careful survey previous to its services being taken into any calculation. The course is tortuous; the supply of water in the hot season scant and variable, and used by natives for the irrigation of their fields; the bed rocky and shoaly: in the monsoon it might possibly be rendered available. I shall now conclude with briefly remarking on the absurdity of associating the pursuit of mining, as has been even done with regard to our manufactures, with avarice, immorality, drunkenness, and every other vice that degrades humanity, since we know, from the observations of Humboldt, and other enlightened travellers, that the exercise of this art, which is intimately connected with the highest branches of physical science, has produced in desert and sterile wastes, a flourishing and industrious population, and conduced materially to wealth and civilization. On the other hand it must be stated that, under a bad government and improper management, it has become the last stake of desperate speculation; and, like other commercial schemes, has proved the ruin of thousands.

ART. XVIII.—*Mineral Resources of Southern India.—No. 2.*  
*Magnesite Formations*<sup>1</sup>. By LIEUT. NEWBOLD, F.R.S. &c.

(Read March 19, 1842.)

ALTHOUGH it is the object of this paper to notice all the known magnesite localities of Southern India, its scope is more particularly directed to that of the Salem province, as being the most extensive, and as yielding the mineral in the greatest abundance.

*Geographical position.*—The magnesite formation of Salem lies about 4 or 5 miles to the N. W. of the town of that name, which is situate in Lat.  $11^{\circ} 37'$  N. and Long.  $78^{\circ} 13'$  E.; it occupies an area, the longest diameter of which runs east and west, of about 8 square miles.

*Geognostic position.*—The surrounding formation consists of a series of alternating hypogene schists;—gneiss, mica, hornblende, and talcose, associated with granite, and a rock analogous to serpentine, and penetrated by dykes of basaltic greenstone.

The magnesite is chiefly found in the hornblende schist, in veins from a few lines to three feet in thickness: the larger surface veins usually run almost horizontally, having a general direction of E. 15. S. and intersected by others, having a vertical, or highly inclined course. At considerable depth below the surface, the largest veins are nearly vertical, dipping southerly: their ramifications strongly resemble those of basaltic dykes. The veins commonly diminish in breadth as they ascend, or are prolonged in the countless fissures, into which the embedding rock appears to have been shattered by a force anterior to the formation of the veins. Some of the fissures are broader than the vein of magnesite with which they communicate.

Near the N. limit of the magnesite area, the rocks rise but slightly from the general level of the plain; towards the S. E. they are elevated from 50 to 150 feet above the level of the surrounding country, in chains of hills partially covered with low jungle, and running in an E. and W. direction near the base of the Shevaroy mountains, of which they form subordinate ranges. On the sides of these hills, and those of the ravines intersecting them, the veins of magnesite are strikingly conspicuous, their white colour being

<sup>1</sup> A section of these veins will be given in the next paper on the mines of chromate of iron, a mineral with which the magnesite is associated.

powerfully contrasted with the dark rugged aspect of the embedding dioritic rocks. Advancing northerly, nearly at right angles with the line of elevation, three large veins of magnesite are crossed, which disappear in the hilly and jungly tracts to the right and left. The two most northerly veins are separated by a zone of massive crystalline amphibolite, intersected by a rock analogous to serpentine, and succeeded by a bed of massive talcose rock. Here the surface presents the aspect of a plain, or rather of a broad shallow valley, bounded by low ranges of the hypogene schists in highly inclined strata. The harder hornblende rocks are found to stand out in relief, while the softer schists, from weathering more rapidly, are usually found in the bottoms of the valleys. The veins of magnesite are particularly numerous in this locality, and exhibit a great tendency to metalline development, being associated with large veins, and containing embedded masses of the chromate of iron. The talcose rock near the contact line becomes indurated, and passes into a light green serpentine,—mottled with reddish, blackish, and dark green spots,—between which and the veins, a thin coat of asbestos, both white and green, passing into nephrite, usually intervenes. The hornblende rock, near the veins, assumes the appearance of weathered serpentine, becoming mottled, and lighter in colour. Drusy cavities are seen in it, lined with a botryoidal, and semicrystalline carbonate of magnesia,—often beautifully white and pure.

The mode in which these cavities, and the sides of the cracks in the rocks are incrustated with crystallized carbonate of magnesia, suggests the hypothesis of the mineral's having been conveyed into them by a process of sublimation from below;—a theory rendered more plausible by the fact of the presence of numerous basaltic dykes in the vicinity. Springs impregnated with carbonate of lime and a small portion of iron, rise through the empty fissures of the rocks, and deposit on their surface, pale reddish incrustations of compact carbonate of lime, resembling the travertine of the volcanic districts of Italy, and not unfrequently cementing together fragments of the magnesite, and forming with them, and pieces of the subjacent rocks, a singular looking breccia. A spring, slightly thermal, having a temperature of 84° Fahr., bubbles up at the base of one of the ridges.

*Mineral character of the Magnesite.*—The air-exposed surface of the magnesite has generally a dirty white aspect, and is either nodular, botryoidal, mammillary, rough and scabrous, or separated by numerous fissures into a cauliflower-like superficies. Some very pure varieties are translucent, and have a stalactiform exterior:—



others present a fibrous structure:—some a radiated one: a few present a chalky friable interior, white as snow: but the general character of the mineral, in the massive state, is that of a hard white travertine:—in colour varying from pure white to buff:—fracture, flat conchoidal; fragments sharp, translucent at edges:—adheres feebly to the tongue:—streak, dull:—feel, meagre:—softer than quartz in general, though sometimes hard enough to give fire with steel:—before the blow-pipe it shrinks, whitens, and hardens: with dilute mineral acids it effervesces slightly: specific gravity, from 2·897 to 2·970 at a temperature of 85°.<sup>1</sup> It is obtained in minute transparent hexagonal prisms with three equivalents of water, when a solution of bi-carbonate of magnesia evaporates spontaneously in an open vessel. The crystals lose their water, and become opaque by a very gentle heat, and even in a dry air at 60°. By cold water they are decomposed, yielding a soluble bi-carbonate, and an insoluble white compound of hydrate and carbonate of magnesia; and hot water produces the same change with disengagement of carbonic acid, without dissolving any magnesia.<sup>2</sup> When calcined and powdered, and mingled in the proportion of two parts (by measure) with one part of sharp quartz sand, the magnesite makes an excellent cement. During calcination, it often separates into curling, fibrous flakes; shows great affinity for water after calcination, and forms, *per se*, a firm cement. A foot or two below the surface of the soil, when recently cut into, it is often soft and sectile, like laterite; but hardens rapidly on exposure to the atmosphere. Some quarried fragments, which I observed under the water-mark at the bottom of the chrome mines, were as compact, white, and hard as the finest porcelain. Mr. Fischer, of Salem, informed me that he had often observed, during the night, a pale phosphorescent light playing over the surface of the magnesite at the bottom of the shallow excavations, which in the darkness imparts a strange unearthly aspect to the spot, well calculated to excite the alarm of the superstitious natives.

According to the analysis of Mr. J. Prinsep, the magnesite of Salem assimilates the character of a pure carbonate of magnesia, more than the mineral of Hroubschitz in Moravia, analysed by Bucholz: as will appear below.

<sup>1</sup> Journal As. Soc. of Bengal, No. 46, p. 510. Henry makes its spec. grav. 2·56, and describes it as a pure anhydrous carb. of magnesia, of snow-white colour, and hard enough to give fire with steel. (An. of Phil. xvii. 252.)

<sup>2</sup> Turner's Elements of Chemistry, p. 738.

<i>Magnesite of Hroubschitz.</i>		<i>Magnesite of Salem.</i>	
Magnesia . . . .	46	. . . .	48·34
Carbonic acid . . . .	51	. . . .	51·66
Alumina . . . .	1	. . . .	a trace
Ferruginous manganese . . . .	0·25	. . . .	a trace of iron
Lime . . . .	0·16	. . . .	0·0
Water . . . .	1	. . . .	0·80
Silica . . . .	„	. . . .	0·30

According to Phillips,<sup>1</sup> a mineral was brought some time ago from India, under the name of native carbonate of magnesia in the form of a light powder, or in small rounded lumps nearly white, or slightly tinged with yellow. It adheres to the tongue,—the fracture very earthy, resembling chalk. Dr. Thomson found it to be composed of carbonate of magnesia 72, carbonate of lime 28. This mineral is widely different from that of Salem; but resembles one which I discovered associated with woody asbestos in the magnesian limestone of Ryelcherroo in the Ceded Districts.

A. Brogniart thus classifies the magnesites of Europe.<sup>2</sup>

“1. Plastic magnesite (*magnésite plastique*), composed of magnesia, silix and water, without carbonic acid. These comprise the magnesite so improperly named *écume de mer*, that of the environs of Madrid, that of the environs of Paris, that of Salinelle, department of the Gard, &c.”

“2. Effervescent magnesite (*magnésite effervescente*), essentially composed of magnesia and carbonic acid, sometimes associated with very variable proportions of silix and water. We may refer to this division the magnesite of Hroubschitz in Moravia: those of Piedmont, of the isle of Elba, of Baumgarten in Silesia, of Styria, &c.”

Mineralogically speaking, the Salem magnesite resembles the second of these classes more than the first; but differs from both in being both plastic and effervescent: it contains less water, alumina, and ferruginous matter than the second, and no lime, except from accidental admixture.

*Geological age of the Salem Magnesite.*—The Salem magnesite belongs to an older formation than those of Madrid, Paris, &c., which occur in secondary limestones; and seems to assimilate those of Styria, Moravia, Turin, and Baltimore in North America; all of which occur in hypogene rocks, and serpentines associated with them. The magnesite of Baltimore, and New Jersey, is sometimes

<sup>1</sup> Introduction to Mineralogy, 2nd ed. p. 138.

<sup>2</sup> Geological Memoirs, translated by De la Beche, p. 283.

associated with chromate of iron, like that of Salem. Chert passing into calcedony is also occasionally found associated with the magnesite of Salem, and of Hoonsoor in Mysore.

*Concluding Remarks.*—Dr. Heyne was the first to discover the magnesite formation of Salem, and Dr. Macleod of the Madras service, to bring to notice the useful properties of the mineral in the composition of cements. The latter gave me the following account of his discovery. “Having had a small building to construct, in the interior of which lime was inadmissible, I was induced to make trial of a cement composed of the magnesite: I found that it set very durably, and in five or six days acquired all the properties of a good cement: a few patches of it were applied to the fort of Madras in February, 1825.” About a year afterwards, Colonel Sim of the Engineers, reported officially to Government on trials made with it at the fort. He stated that a cement composed of the calcined magnesite and sand (by measure two parts of the former to one of the latter) was applied to the counterscarp of the ditch of Fort St. George, and a portion of the same wall was plastered with a cement of lime and powdered iron stone, leaving an intermediate space of ten feet, which was covered with common chunam plaster. These were exposed to a heavy monsoon, when the magnesian cement was found to be rather the strongest and hardest of the three; and seemed equal, as far as a judgment could then be formed, in every respect to Parker’s cement. The expense was equal to that of Parker’s cement:—a ton of either, when brought to Madras, after being calcined, and reduced to powder, costing from 80 to 90 rupees:—but Dr. Macleod subsequently stated to Government (Letter to Sir F. Adam, 1st October, 1835) that the magnesite had since been found in large quantities (at Yedichicolum?) near Trichinopoly on the banks of the Cauvery, and could be conveyed to Madras, calcined, at about 40 rupees per ton;—which, with  $1\frac{1}{2}$  ton of sand added to it, would be equivalent to  $2\frac{1}{2}$  tons of Parker’s cement,—the price of which is about 200 rupees. The last mentioned proportions of sand and magnesite were employed by Colonel Monteith of the Madras Engineers, and, to use that able officer’s expression, they formed a cement as firm as a rock.

A few years ago, Colonel Pasley, not being aware that the discovery of this valuable hydraulic cement had been brought to the notice of the Madras Government by Dr. Macleod, so far back as 1825, submitted his own claims to the discovery, to the Indian home authorities; who, on investigation, having ascertained the priority of Dr. Macleod’s pretensions, munificently presented the latter with the sum of 3,000 rupees.

Besides the localities mentioned in the course of this paper, magnesite occurs, according to information afforded me by natives, in the vicinity of Comarpollium, about 12 miles westerly from Sankerry-droog in the Salem district, and in the copper mine district of Nellore: it has also been discovered by Mr. Gilchrist in the neighbourhood of Hoonsoor in Mysore. It occurs like that of Salem, and Trichinopoly, in all these localities, in the hypogenic schists, particularly the hornblende schist, and associated with asbestos, chert, nephrite, and sometimes with the chromate of iron.

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ART. XIX.—*Mineral Resources of Southern India.*—No. 3.  
*Chromate of Iron Mines: Salem District.* By LIEUT.  
 NEWBOLD, F.R.S., &c., *Madras Army.*

(Read 19th March, 1842.)

THE chromate of iron mines of South India are situate near Curpúr, about four miles to the N.W. of Salem, a town which stands in lat.  $11^{\circ} 37' N.$ , and long.  $78^{\circ} 13' E.$ , among some hilly, jungly tracts at the S.W. base of the Shevaroy Hills.

*Geognostic Position.*—The Shevaroy Hills are composed principally of gneiss, alternating with hornblende and micaceous schists in highly inclined strata, through which granite is seen protruding at several points: they attain an elevation above the sea, ascertained by barometrical measurement, of 5260 feet. The principal rock composing the subordinate hilly tract in which the mines are situate is hornblende schist, alternating with micaceous and massive talcose schists, penetrated in numerous places by dykes of basalt, and layers of a magnesian rock analogous to serpentine, intersected by a complete net-work of veins of magnesite. I vainly endeavoured to trace a regular dip, or direction in these veins. In some, (*vide* Section) the chromate of iron is seen running in a continued vein, from a few lines to between three and four feet in thickness, but very irregularly, contracting suddenly in some places, and again widening in others. The ore, in other situations, is seen in detached nodules, and angular masses, embedded in the magnesite. One of these blocks weighed, according to the information of the miners, a couple of tons. The veins run more frequently along the sides of those of the magnesite than down their middle, but are not rarely observed penetrating and intersecting them, a circumstance indicating a posterior origin.

It is impossible, as mentioned before, to trace any general dip or direction to the mass of veins. The largest plunged at an angle of from  $70^{\circ}$  to  $85^{\circ}$  towards the S.S.W. The vein, on which the miners were at work at the time of my visit, was the largest that had been discovered; the greatest breadth being three feet six inches. The ore, however, was not thought much of by the miners being divided by numerous fissures, filled with thin seams of compact magnesite. The detached embedded masses were much freer from these fissures, and more esteemed. Besides the magnesite,

nephrite and asbestos are found associated with the chrome ore, in thin layers between it and the embedding rock, and lining minute fissures. In geognostic position and age, it appears to assimilate the chromate of iron found in the serpentine rocks of the Shetlands, of Siberia, of Baltimore, and probably in those of Norway.

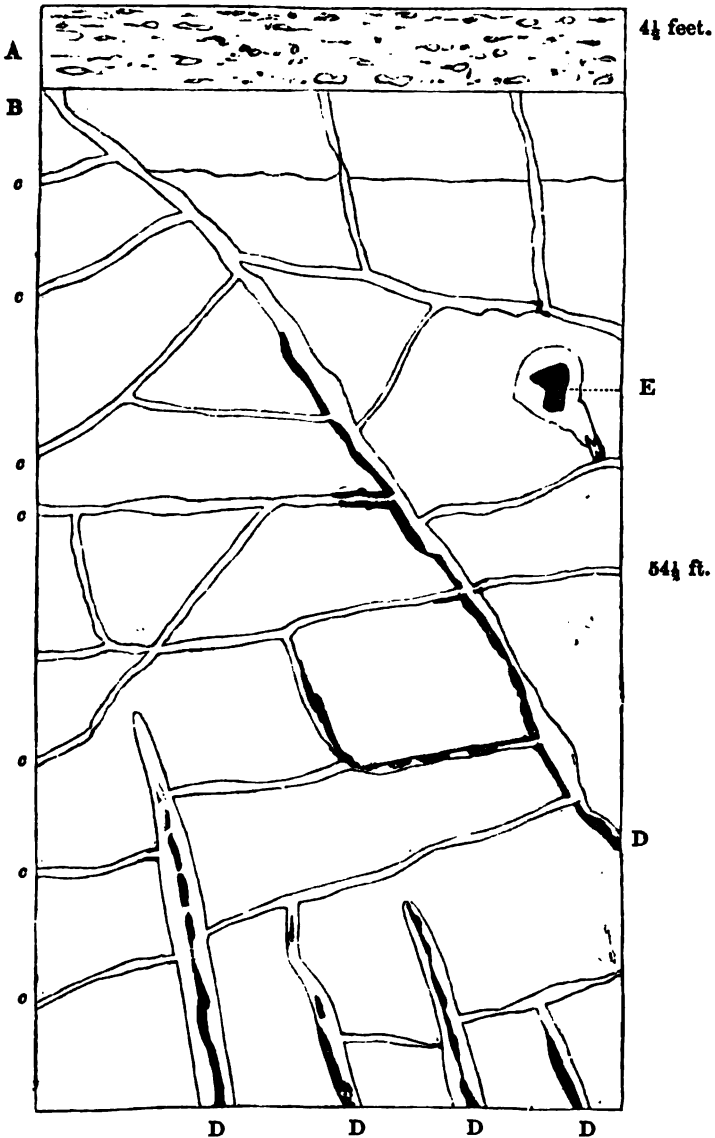
*Mines.*—The mines had been recently opened, when I saw them in March, 1840. They consisted of two open shafts, nearly close together, sunk through four or five feet of alluvium, and through the rock to the total depths of fifty-nine and sixty-three feet. Water was found in considerable quantity at the depth of fifty-nine feet, and had covered the floor of the deepest mine to the height of four feet. The men were engaged in removing it, with no better implements than ropes and buckets, and in opening a gallery of communication with the other mine. The mode of descent was by means of wooden ladders to successive floors.

*Ore.*—The ore is not magnetic: it differs from that of Siberia in not being prismatic, though the minute microscopic fissures intersecting it often impart a pseudo-crystalline form readily discernible on striking and splitting some of the masses with the hammer. There are two varieties known to the miners,—the first is compact in structure; colour, purplish-iron black; lustre, imperfectly metallic: the second has a more brilliant lustre; colour, steel gray; with a granular semi-crystalline structure, and is said to yield the most chrome. The process of testing the ore, practised by the miners on the spot, is to reduce equal parts of it, and the nitrate of potash to powder; submit them mingled to calcination in a crucible; powder the residuum, and dissolve it in rain water, filter the solution, and precipitate with acetate of lead. They judge of the quality of the ore by the intensity of colour in the precipitated chromate of lead thus produced. The specimen I presented to the Royal Asiatic Society has been recently examined by Edward Solly, Esq., whose report is as follows:—"The chrome ore is the chromite of iron, (commonly called the chromate of iron): it is perfectly similar to the ore brought from the north of Scotland, America, and elsewhere. Its value will necessarily depend on the quantity in which it is procured, or rather on the expense of obtaining it, free from adhering earthy matters. A tolerably clear sample yielded me forty-nine per cent. of chromic oxide, (and this is about equivalent to fifty-seven per cent. of chromic acid, or 100 per cent. of chromate of potash). The ore is as good as can be desired, but the only question to be asked is, can it be readily obtained free from matrix or adhering earthy matters."

The ore is separated from the rock by means of pickaxes, chisels, wedges, and hammers: sorted, and piled up into little heaps on the ground in front of the huts occupied by the superintendents, where it remains until the Cauvery becomes navigable; that is, from the end of June till the end of September. It is then sent down by land to Moganoor, a place on the river, about forty miles southerly from Salem, whence it is boated to Porto-novo on the Coromandel coast. Thence it is shipped for Europe, by the Porto-novo Iron Company.

To Mr. Heath, I believe, the merit is due of the discovery of this valuable mineral. Mr. Fischer, of Salem, informed me that Mr. Heath communicated to him the circumstance of its having been found in the Salem district, and requested him to make every search for its sites. This was done for some time without success; but, at last, it was discovered accidentally by Mr. Fischer while in search of a wounded wild-fowl. I am sorry to add, that by late accounts from India, the mines now appear nearly exhausted; the first 100 tons of ore were got with facility, but at present doubts exist whether it can be procured at all; or, if so, whether the mines can be worked at a remunerating price, partly in consequence of the expense to be incurred in machinery and engines for steaming the water out.

I am informed that chromate of iron is also found associated with magnesite at Yedichicolum, on the Cauvery, near Trichinopoly, in a similar formation to that of Salem. If it exist there in any quantity, the site would be more advantageous than that of the latter for the facility of water-carriage. Indications of its existence are said to occur in the vicinity of Hoonsoor in Mysore, and near Comarpollium, ten or twelve miles south-west from Sankerrydroog, in the Salem district.

*Section of Chrome Mine, Salem, 59 feet deep.*

A, Alluvium overlying rock B.      B, Magnesian rock.  
*c, c, c, c, c, c, c, c,* Veins of magnesite; breadth exaggerated.  
 D, D, D, D, D, ditto of chromate of iron in the magnesite.  
 E, angular mass of chromate of iron embedded in magnesite.



For the discovery of chromate of iron in the serpentine rocks of the Shetland Isles, and on the Mainland of Scotland, we are indebted to Professor Jameson, and his pupil, Dr. Hibbert: in Norway to Essmark. From both countries it is exported; from Norway, until 1831, in the rough state to England, Holland, Russia, and Germany: but a company has been established at Drontheim for the purpose of supplying the cotton printers and porcelain manufacturers of these countries with prepared chrome, a more lucrative branch of trade than the export of the crude ore. It remains yet to be seen whether British India, whose neglected mineral resources are gradually being developed, will be able to compete with Norway in supplying Europe with this mineral, so useful in the arts.

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ART. XX. *An Account of the Religious Opinions and Observances of the Khonds of Goomsur and Boad.* By CAPTAIN SAMUEL CHARTERS MACPHERSON, of the Madras Army.

(Read November 20, 1841.)

[*Note.* SEVERAL years ago, at the close of the military operations of the Madras Government in Goomsur, Captain (then Lieutenant) Macpherson executed by order of government a survey of the country, and in that service lost his health. From the Cape of Good Hope, whither he had gone for its recovery, he transmitted his notes on the religion of the Khonds to a relative in this country, who considered them to possess so much novelty and general interest, that he presented them to the Society, upon his own responsibility, and without the sanction of the writer: and a few additions having been since made, the paper is now laid before the public.]

INTRODUCTION.

*Of the Relations of the Khond Population of the Zemindaries of Goomsur and Boad to the Hindu People.*

Natural and political divisions of Orissa. Maritime division. Subalpine division. Alpine division. Three principal primitive races, the Koles, Khonds, and Sourahs. Region of the Khond race. Region of the Sourah race. These observations relate chiefly to the Khonds of the Zemindaries of Boad and Goomsur.

The light of authentic history dawns upon the ancient kingdom of Orissa, at the period of the accession of the Kesari dynasty to its throne A.D. 473, and in the ninth century plainly discloses its great social features, which then bore the same analogy to its geographical divisions which they still bear.

The territory of Orissa, when the power of the Gajapati sovereigns was at its zenith<sup>1</sup>, occupied a space measuring six degrees in latitude, between the valley of the Ganges and that of the Godavery, and having a mean breadth of about three degrees in longitude. This space is traversed in its whole length by the range

<sup>1</sup> Stirling's Cuttack, *Asiat. Trans.*, vol. xvi.

of Eastern Ghauts, running at an average distance of seventy miles from the coast of Coromandel, and is naturally divided, by no strong lines of demarcation, into an Alpine, a Subalpine, and a Maritime region.

I. Its Maritime division extends along the whole sea-board, with an average breadth of fifteen miles. It is an open, salubrious, and highly productive expanse, with the exception of a tract of marshy and forest-covered deltas intersected by lagunes, which is situated in its northern portion. The open and fertile parts of this territory formed, in accordance with the general usage of India, the *Khâlsah* or state-domain; whilst the wilder and less accessible districts were partitioned into a number of *Zemindaries* of various rank, value, and extent.

II. The Subalpine region comprehends the subordinate ramifications, and the dependent hill groups of the great mountain chain upon either side, with the extensive tracts of country which they embrace. It comprised above one half of the entire area of the kingdom, forming a vast ill-explored range of hilly wastes, impenetrable forests, and swampy wood-lands, interspersed with many beautiful and fertile valleys, and broken occasionally by broad and productive plains.

This region was divided into a large number of *Zemindaries*, some of which, bearing the rank of petty principalities, have made a considerable figure in the history of the eastern division of the peninsula of India.

The subject of the relation of these great estates to the Orissan monarchy, and to the empires in which they have been included since its fall, has been obscured rather than illustrated by the application to it of the terms and analogies of feudalism, by writers who have regarded the external features of the Orissan system, rather than its origin, its principles, and its spirit.

These *Zemindary* domains vary in point of extent from inconsiderable estates of small value to territories of great dimensions yielding large revenues. The more important are possessed by families which derive their origin from the royal houses of Orissa, or from the principal stocks of Rajputana, or which have sprung from successful adventurers, generally of two classes,—the leaders of predatory bands, and great provincial officers in whose hands administrative have passed into proprietary rights.

But the greater *Zemindars* of Orissa as a body do not owe their territories, like the original nobility of feudal Europe, to the direct patronage of a sovereign, nor their authority to the social wants of

a particular age. Their possessions were generally acquired by the enterprise, or by the policy of the founders of each house; either conquered from earlier Hindu proprietors, or wrested from the primitive occupants of the soil, or severed by fraud and force from the state. But all have acknowledged the theoretical supremacy, in succession, of the Orissan monarchy, of that of Delhi, of the Mahratta power, and of our empire; accepting from each in its turn deeds of tenure, either original or renewed, which bear every date within a period of twelve centuries, and exhibit conditions endlessly varied.

The precarious and unfruitful allegiance which they have yielded to these powers has been signified by the payment of tribute, which under our rule is in some quarters nominal, in some heavy; by the performance of services, generally formal; and the maintenance of nominal contingents.

But the chiefs of these estates have always borne the title of Raja, and have generally exercised, with few practical limitations, all the powers of independent sovereignty; reigning, the haughty and uncontrolled despots of their wild domains, save where revolts have arisen, generally from the operation of unsuitable laws and excessive assessments, and where we have bent them completely or partially to our yoke.

III. The Alpine region, comprising the central ridges, the lofty plateaux, and the inner valleys of the chain of Ghauts, with the great tracts of forest by which they are surrounded, has been occupied from the earliest historical period, chiefly by remnants of three races, which claim, with the universal support of tradition, the aboriginal possession, not of this portion alone, but of the greater part of the soil of Orissa.

Of these remnants, the Koles prevail in the northern parts, the Khonds in the middle region, and the Sourahs in the south; and whilst each of these holds exclusive possession of a part of the central tracts of mountain and forest, they exist, also, thinly scattered over portions of the Zemindary domains, under various relations to the Hindu people.

The Khonds are now seen in both these situations, within the following ill-defined limits. Upon the east they appear scattered over the wilder tracts of the Ganjam district, bordering upon the Chilka lake, touching in that quarter, at a few points, the coast of the Bay of Bengal. They are found, on the north-west, on the confines of Gondwana, in lon. 83°, while on the west they extend within the unsurveyed frontier of Berar. They are found as far

south as Bustar in lat.  $19^{\circ} 40'$ , while the Zemindary of Palconda is, like that of Runnapoor, possessed by a Khond chief. On the south they are replaced, in the Zemindary of Pedda Kimedya, in Ganjam, by the Sourah race, which thenceforward generally occupies the eastern acclivities of the Ghauts to the Godavery. To the north, fifty miles beyond the Mahanadi, in the meridian of Boad, they are succeeded by the Kole people. On the north-east they are found high in Cuttack; while Sourahs (not identified with the Sourahs of the south) inhabit there the inferior ridges of the Ghauts.

The extreme length of the territory which is thus indicated is about 200, its extreme breadth about 170 miles; and it is unequally divided by the Mahanadi, flowing from west to east in  $20^{\circ} 40'$  N. lat.

The Sourah race extends from the Kimedya Zemindary and from that of Souringhi, which adjoin Goomsur upon the south, to the Godavery, a region 200 miles in length, which is almost entirely unexplored.

The present paper is intended to exhibit an outline of the religious opinions and observances of the portion of the Khond people which has fallen under my view, to the south of the Mahanadi, and principally in the Zemindaries of Boad and Goomsur,—two domains which hold a high rank amongst the great estates of Orissa, whether in respect of extent, of antiquity, or of the dignity of the families by which they have been possessed.

#### OF THE RELIGION OF THE KHONDS.

The difficulty, under any circumstances, of ascertaining and describing with accuracy, from oral statements, the opinions, feelings, and sentiments, which constitute a system of religion, is sufficiently apparent.

But with respect to the superstition of the Khonds it is necessary to keep distinctly in view, that their low stage of intellectual advancement presents a peculiar and additional source of error.

The leading doctrines alone of this rude system of faith are distinctly determined in the minds even of the best informed of its professors. All besides is vague, fluctuating, and uncertain. Hence in the attempt to fix in exact language a body of traditional ideas, I feel that I have unavoidably imparted to the subject a semblance of completeness, regularity, and system, which does not strictly belong to it.

I propose, 1st, to consider this superstition as it is in itself,—to state its leading ideas in immediate reference to its several divinities.

2ndly. To describe its priestly institutions.

3rdly. To notice the influence which it exerts upon society.

### SECTION I.

#### OF THE DOCTRINES OF THE KHOND RELIGION.

##### *Of the Fundamental Ideas of the Religion of the Khonds.*

Fundamental ideas of the Khond superstition analogous to those of other races at a similar state of mental advancement. Two classes of native divinities. One Hindu divinity.

The religion of the Khonds, in its principles, its institutions, and its influences generally, resembles the systems of superstition which have been established amongst mankind, in all countries, at the same stage of intellectual progress.

Its divinities arise, 1st, from the deification of the powers which are believed to animate and to control the sensible forms of the universe, from which these powers are not discriminated by name; and 2ndly, from the adoration of the divine energy, as it is vaguely associated with abstract ideas, predominating sentiments, and local objects.

In addition to their divinities of native origin, the portion of this people to which these observations refer, has adopted, under several of her appellations, Kali, the Sakti, active energy and consort of Siva the reproducer, who is worshipped by the Hindus of the surrounding portions of Orissa.

The Khond deities may be conveniently divided into two classes, the first comprehending those which are universally acknowledged; the second, the local divinities.

In the first class are :

1. Bera Pennu, or the Earth God.
2. Bella Pennu, the Sun God, and Danzu Pennu, the Moon God.
3. Sandhi Pennu, the God of Limits.
4. Loha Pennu, the Iron God or God of Arms.
5. Jugah Pennu, the God of Small-pox.
6. Nadzu Pennu, or the village deity, the universal Genius Loci.
7. "Soro Pennu," the Hill God.
8. "Jori Pennu," the God of Streams.

9. "Gossa Pennu," the Forest God.
10. Munda Pennu, the Tank God.
11. "Sugu Pennu" or "Sidruju Pennu," the God of Fountains.
12. Pidzu Pennu, the God of Rain.
13. Pilamu Pennu, the God of Hunting.
14. The God of Births.

In the second class are :

- |   |                      |
|---|----------------------|
| 1. The deceased ancestors<br>of each tribe, or branch<br>of a tribe | 6. Dungarry Pennu.   |
| 2. Pitabaldi.   | 7. Singa Pennu.      |
| 3. Bandri Pennu.  | 8. Dommosinghani.    |
| 4. Bahman Pennu.  | 9. Potterghor.       |
| 5. Bahmundi Pennu.  | 10. Pinjai.          |
|   | 11. Kankali.         |
|   | 12. Bulinda Silenda. |

There remains the Hindu Goddess Parvati, or Kali, worshipped by the Khonds under her names Bhadrawallu, Bhairavi, and Komeswari.

Of these deities in their order.

#### OF THE KHOND DIVINITIES GENERALLY ACKNOWLEDGED,

##### I. *Bera Pennu, or the Earth God, in Orissan Bhumi Devita.*

*Bera Pennu, or the Earth God, worshipped under two characters. Attributes of his comprehensive character. Attributes as the divinity presiding over the powers of Nature. Institution of the rite of human sacrifice. Occasions of sacrifice. Public sacrifices. Each crop requires blood. Private sacrifices. Number of victims. The victims how procured. Acceptable victims. Must be bought. Occasionally married. Condition of the children of victims. Father and child not sacrificed in the same district. Escape of a victim. The rite lasts three days. The Meria grove and stream. The place of sacrifice.*

*Bera Pennu, or the Earth God, appears to be worshipped under two characters, which, however clearly distinguished in theory, are seldom separately contemplated by his trembling votaries. He is regarded first, as the Supreme Power, and secondly, as the deity who presides over the productive energies of Nature,—the two-fold aspect under which the Sun, or the regent of the solar orb, was adored in the primitive Hindu Mythology.*

*The attributes of the Earth God in his comprehensive character, as the supreme or greatest power, are vague, confused, and perplexed;*

making up but a dim barren abstraction in the minds of men incapable of forming ideas of power not immediately derived from the sphere of their sensible experience.

In this character he appears to receive distinct worship in one case only. When a Khond tribe engages in war with enemies of another race, his awful name is invoked, and vows of sacrifice in case of success are recorded. His nature is purely malevolent, but his practical malignity towards man is generally referred to his secondary character. He does not seem to interfere with the independent actions of the other deities in their respective spheres, and he is nowhere peculiarly present.

In his secondary character, as the divinity who presides over the operations of Nature, the functions of the Earth God are defined with a considerable degree of distinctness; reflecting generally the leading wants and fears of an agricultural population. He rules the order of the seasons, and sends the periodical rains; upon him depend the fecundity of the soil, and the growth of all rural produce, the preservation of the patriarchal houses, the health and increase of the population, and in an especial manner the safety of flocks and herds and their attendants.

The following tradition contains the only revelation relative to this deity which is received by his worshippers.

"The Earth," say the Khonds, "was originally a crude and unstable mass, unfit for cultivation and for the convenient habitation of man. The Earth God said, 'Let human blood be spilt before me!' and a child was sacrificed. The soil became forthwith firm and productive; and the deity ordained that man should repeat the rite and live."

Thus, the Khond enjoys the ordinary bounty of Nature on condition of deprecating, by the ceaseless effusion of human blood, the malignity of the power by which its functions are controlled. This is the foundation, and in one point of view the sum of his religion.

The occasions and the modes of worship of the Earth God, are regulated by usages which vary in every district. I shall describe those which prevail in a considerable portion of the Mahals of Boad and Goomsur.

Contribution to the support of the ceremonial of human sacrifice, the rite which constitutes the public religion, is an indispensable condition of association in a Khond tribe; and the burden appears to be distributed without difficulty in each village, by no fixed rule, according to the means and the dispositions of individuals.

Sacrifices to the Earth God are either public or private. The



former are offered by a tribe, a branch of a tribe, or by a village ; the latter by individuals, who are generally prompted by the immediate apprehension of the wrath of the divinity.

The considerations upon which the performance of public sacrifice depends, appear to be generally these :—

I. It is thought necessary that every farm should share the blood of a human victim at the time when each of its principal crops is laid down, and particular anxiety is felt for the fulfilment of the rite in the case of the more valuable products, rice, turmeric, and mustard.

A harvest oblation is in some districts of Boad deemed scarcely less necessary than the spring sacrifice<sup>1</sup>, and it is considered in the last degree desirable that several offerings, according to the promise of the year, should intervene betwixt them. During the hot months, when agricultural labours are nearly suspended, these offerings, which may be termed Cereal, are not made. In some districts the time of new moon is always selected for these sacrifices, in others this period is not regarded.

II. Should the health of the society be affected in an extraordinary degree, or should its flocks or herds suffer from disease, or from the ravages of wild beasts, public expiations to the Earth God must be performed.

III. The patriarchal office is connected, to a great degree, with religious feeling, and, practically, the fortunes of the Abbaya<sup>2</sup> are regarded as the chief index of the disposition of the deity towards the portion of society over which he presides. Hence the failure of his crops, the loss of his farm stock, and more especially sickness or death in his household, are regarded as tokens of coming wrath, which cannot be too speedily averted.

All arrangements connected with the ceremony of sacrifice, are conducted by the patriarch in concert with the priest. The divine will is in every case declared by the latter, as it is communicated to him in visions ; and he may demand a victim at any time, even when no visible signs of divine displeasure appear.

The public sacrifices to the Earth God, then, appear to be either Cereal offerings, health offerings, or offerings on account of the patriarchal families.

Private atonements are deemed necessary when any extraordinary calamity marks the anger of the deity towards a particular house, as, for example, when a child watching a flock perishes by a

<sup>1</sup> See the First Georgic, 338—350.

<sup>2</sup> Patriarch.

tiger, the form which is assumed by the Earth God for purposes of wrath. Then the parents hasten to the priest, conduct him to their dwelling, and dash vessels of cold water over him. When seated in his wet garments, a cup of water is placed before him, into which he dips his fingers thrice, smells them, sneezes, and is filled with the god, and speaks wildly in his name.

“Bacchatur vates, magnum si pectore possit  
Excusasse Deum.”

He of course refers the visitation to the neglected worship of the dread deity, and generally demands an immediate victim. If this requisition cannot be complied with, a goat is led to the place of sacrifice, where its ear is cut off, and cast bleeding upon the earth; a pledge which must be redeemed by human blood, at whatever cost, within the year.

In one district in the Jeypore Zemindary, which I have not visited, blood is drawn from the ear of a child of the afflicted family, who becomes pledged to sacrifice it if a substitute cannot be provided. I have not, however, heard, on good authority, of any instance of the actual immolation of a *Khond* in the districts to which these observations refer, although *Khonds* have certainly been sacrificed elsewhere.

It thus appears that the number of sacrifices in a *Khond* district depends upon circumstances so variable, that it is scarcely possible to form an estimate in any case of their annual average. In the valley of Borogutza, two miles long, and less than three quarters of a mile in breadth, I found seven victims whose immolation had been prevented by the vicinity of our troops, but was to take place immediately upon my departure.

Victims, in the Orissa language “*Merias*,” in that of the *Khonds* “*Keddu*,” or “*Tukhi*,” are everywhere procured by the “*Dombango*,” termed “*Panwa*,” or weavers, by the Hindus, a class of inhabitants of the hill country who have peculiar duties in every village. They purchase them without difficulty upon false pretences, or kidnap them, from the poorer classes of Hindus in the low country, either to the order of the abbayas or of the priests, or upon speculation; when in difficulty, they sell their own children for sacrifice. When brought up the mountains, the price of the victims is determined by the demand, a few being always if possible kept in reserve in each district, to meet sudden demands for atonement.

Victims of either sex are equally acceptable to the Earth God: children, whose age precludes a knowledge of their situation, being

for convenience sake preferred. Brahmans who have assumed the Brahmanical thread, (being probably regarded as already consecrated to the deity,) and perhaps Khonds, in some tracts, are held to be unacceptable offerings; but the word of the procurer is the only guarantee of fitness in these respects which is required.

It is a highly characteristic feature of this religion, and pregnant with important consequences, that every victim, with the single exception above noticed, must be bought by the Khonds with a price; an unbought life being an abomination to the deity.

The meria is brought blindfolded to the village by the procurer, and is lodged in the house of the abbaya; in fetters if grown up, at perfect liberty if a child. He is regarded during life as a consecrated being, and if at large is eagerly welcomed at every threshold.

Victims are not unfrequently permitted to attain to years of maturity in ignorance of their situation, although how this ignorance can be maintained it is difficult to understand; and should one under such circumstances have intercourse with the wife or the daughter of a Khond, thankfulness is expressed to the deity for the distinction.

To a meria youth who thus grows up, a wife of one of the castes upon the mountains not of Khond race is generally given. Farm stock and land are presented to him, and should a family be the result, it is held to be born to the fearful condition of the sire. The sacrifice of lives bound to existence by these ties is often foregone, but should the dread divinity require atonements not easy to be afforded, the victim father and all his children are offered up without hesitation. It is a rule, however, that persons who stand in the relation of direct descent, shall not be immolated in the same district; and this is so rigidly observed, that when a victim is thought in any degree to resemble a former mature sacrifice, he is always out of precaution either sold or exchanged: and this is I presume to avoid the risk of sacrificing (according to the ideas of the Khonds noticed above) the same life twice to the divinity.

In the time of Kuli Dora Bissye of Goomsur, uncle of the present Dora Bissye, and one of the class of Benniah Khonds which has generally foregone the practice of this rite, a victim who had been permitted to attain to manhood was led out to sacrifice in the district of Rodungiah. The preliminary ceremonies had been gone through, and an intoxicated crowd expected their consummation, when the fettered youth said to the abbaya, "In suffering this death I become, as it were, a god; and I do not resist my fate: unbind me, and let me partake with you in the joy of the festival." The

abbaya consented, and unbound him ; the young man called for a bowl and drank, and the crowd contended fiercely for the remains of the liquor which his lips had consecrated. He then danced and sang amid the throng until the sacrifice could be no longer delayed when he requested the abbaya to lend him his axe and his bow that he might once more join his companions, armed like a free man, in the dance. He received the weapons, and when the abbaya was busied with the priest in preparing for the last rite, the youth approached him in the dance and clove his skull at a blow. He then dashed across the Salki, a deep and foaming torrent, and fled down the Ghaut to the keep of Kuli Bissye. A furious crowd of worshippers followed and demanded his surrender. But the Bissye contrived to cajole them until he could collect a small party of adherents who secretly bore away the fugitive, and his descendants still live.

In like manner, when the arrival of the English troops first spread confusion above the Ghauts in Goomsur, many victims sought and found protection at the hands of the present Dora Bissye.

From these festivals of sacrifice no one is excluded. They are generally attended by a large concourse of people of both sexes, and continue for three days, which are passed in the indulgence of every form of gross excess, in more than Saturnalian licence.

The first day and night are spent exclusively in drunken feasting and obscene riot. Upon the second morning the victim, who has fasted from the preceding evening, is carefully washed, dressed in a new garment, and led forth from the village in solemn procession, with music and dancing

The Meria grove, a clump of deep and shadowy forest trees,—

“ *Sylva alta Jovis lucusque Dianæ,*”

in which the mango, the bur, the dammar, and the pipala generally prevail, usually stands at a short distance from the hamlet, by a rivulet which is called the Meria stream. It is kept sacred from the axe, and is avoided by the Khond as haunted ground. My followers were always warned to abstain from seeking shelter within its awful shade. In its centre, upon the second day, an upright stake is fixed, generally between two plants of the Sankissar or Bazardanti shrub. The victim is seated at its foot, bound back to it by the priest. He is then anointed with oil, ghee, and turmeric, and adorned with flowers; and a species of reverence, which it is not easy to distinguish from adoration, is paid to him throughout the day. And there is now infinite contention to obtain the slightest relic of his person ; a particle

of the turmeric paste with which he is smeared, or a drop of his spittle, being esteemed, (especially by the women,) of supreme virtue. In some districts, instead of being thus bound in a grove, the victim is exposed in or near the village upon a couch, after being led in procession round the place of sacrifice. And in some parts of Goomsur where this practice prevails, small rude images of beasts and birds in clay are made in great numbers at this festival, and stuck on poles; a practice of the origin or meaning of which I have been able to obtain no satisfactory explanation.

Upon the third morning the victim is refreshed with a little milk and palm sago, while the licentious feast, which has scarcely been intermitted during the night, is loudly renewed. About noon the orgies terminate, and the assemblage issues forth with stunning shouts and pealing music to consummate the sacrifice.

As the victim must not suffer bound, nor on the other hand exhibit any show of resistance, the bones of his arms, and if necessary those of his legs, are now broken in several places.

The acceptable place of sacrifice has been discovered during the previous night, by persons sent out for this purpose into the fields of the village or of the private oblator. The ground is probed in the dark with long sticks, and the first deep chink that is pierced is considered the spot indicated by the Earth God. The rod is left standing in the earth, and in the morning four large posts are set up around it.

The priest, assisted by the abbaya and one or two of the elders of the village, now takes the branch of a green tree, which is cleft to a distance of several feet down the centre. They insert the victim within the rift, fitting it in some districts to his chest, in others to his throat. Cords are then twisted round the open extremity of the stake, which the priest, aided by his assistants, strives with his whole force to close. He then wounds the victim slightly with his axe, when the crowd throws itself upon the sacrifice, and exclaiming, "We bought you with a price, and no sin rests on us!" strips the flesh from the bones<sup>1</sup>.

Each man bears his bloody shred to his fields, and thence returns straight home. Next day all that remains of the victim is burnt up with a whole sheep on a funeral pile, and the ashes are scattered over the fields, or laid as paste over the houses and granaries; and for three days after the sacrifice the inhabitants of the village which afforded it remain dumb, communicating with each other by signs, and remaining unvisited by strangers. At the

<sup>1</sup> This is not the only mode in which human life is offered up by the Khonds to their gods.

end of this time a buffalo is slaughtered at the place of sacrifice, when tongues are loosened; but until seven days have elapsed, a person who has been present at a sacrifice cannot approach the villages of a tribe which does not offer human sacrifices.

The Khond population of the region which extends between Goomsur and the Zemindary of Chinna Kimedya, a tract about sixty miles in length and fifty in breadth, do not offer human victims to the gods.

## II. *Bella Pennu, the Sun God, and Danzu Pennu, the Moon God.*

The Sun and the Moon are universally recognised as deities by the Khonds, but no ceremonial worship is addressed to either in the districts to which these observations extend<sup>1</sup>. They are acknowledged in these districts by simple invocation upon every occasion of religion and solemnity.

## III. *Sandhi Pennu, the God of Limits.*

Adored by human victims on boundaries. Other victims.

It is easy to understand that amongst clusters of jealous tribes which depend entirely upon the soil, a God of Limits should be universally acknowledged. He is apparently to be regarded as a manifestation of the Earth God. He is adored by the same rite as the great divinity; but, besides the blood of human victims, that of buffaloes and of goats is acceptable to him. Particular points upon the boundaries of districts, fixed by ancient usage, and generally upon the highways, are his altars, and these demand each an annual victim, who is either an unsuspecting traveller struck down by his priests, or a meria provided by purchase, as for the Earth God.

On the boundary between Ruttabarri and Ogdur, on the Hattigtzu ghaut, and on that of the same district on the side of Balskupa, this rite is never omitted. Upon the latter, where it is marked by some low barricades, a mile from Surudukupa, I saw the bones of a late victim whitening in the sun. On the ghaut between Kuradicottah and Borogutza, there is a similar place of sacrifice, marked by a turmeric-smearred stone, which stands beneath a spreading mango tree, and is called "Lakshmi patra" by the trembling Hindu. On the boundary between North Atkombo and Boad is also a well-known place of sacrifice, distinguished by a heap of stones; "Sandhi" is the Khond and Orissan word for "boundary."

<sup>1</sup> I have reason to believe that in some districts the Sun is the chief God.

IV. *Loha Pennu, the God of Arms.*

His symbol. When invoked. Victims.

The God of Arms has in every Khond village, at least in the southern districts, a grove sacred from the axe, in the centre of which, beneath a spreading tree, his symbol is buried, a piece of iron about two cubits in length; and to no Khond god is worship more assiduously or devoutly paid.

When war is resolved upon, the priest, accompanied by a few of the leading elders (while women and children, abhorred by this god, are carefully kept at a distance), enters his grove. He sacrifices a young chicken, letting the blood sink into the earth, and over the symbol he pours out a libation of palm toddy, and then presents an addled egg and some rice, all the while invoking the presence of the deity, saying, "Our youth are going out to fight; go thou out before them!" The priest then divides some rice into a number of small heaps, and offers one to Bera Pennu and one to each of the other deities, whom he thinks proper to propitiate. He then leaves the grove, accompanied, it is believed, by the deity, if propitious. On the outside there await him the whole youth of the tribe completely armed. He heaps their arms with much solemnity in a pile by a stream, and taking a handful of long grass, sprinkles them with water. He then calls loudly upon Loha Pennu, and upon Bera Pennu (if it is not a case of family feud), and on "the war gods of the hills," and on all the other gods. Loha Pennu, if favourable, now possesses the priest, who becomes bacchant, raving wildly with hair cast loose, and shouting in phrenzy, while all shout with him. He then seizes a handful of the arms, points towards the hostile quarter, and delivers them to those nearest, who rush off, followed by the rest as they can snatch weapons from the heap. They make straight for the nearest of their enemy's villages, and attack any of the inhabitants whom they find in the fields, but no one met upon the road; for there, even while a conflict is going on, any one is safe. If they find no one in the fields, they go up to the tree next the village and wound it with an axe. When the people thus attacked take the alarm they shout defiance from every village, and both sides give themselves up to preparations for battle on the morrow. The priest before the battle makes a fresh offering to Loha Pennu on the field, and gives the signal to engage. He himself waits in the rear until some warrior, himself unwounded, can bring the right arm of a slain foe, with which trophy they both rush to the grove of Loha Pennu, where

the priest presents it to the god, with the prayer that he will make the axes of the tribe more sharp, and their arrows more sure.

Success in arms is carefully ascribed in every case to the immediate interposition of Loha Pennu, never to personal valour.

It is in the power of the priest upon any occasion to prevent war by declaring Loha Pennu to be unfavourable.

#### V. *Jugah Pennu, the God of Small-Pox.*

His offerings.

Jugah Pennu, say the Khonds, "sows small-pox upon mankind as men sow seed upon the earth." When a village is threatened with this dread disease, it is deserted by all, save a few persons who remain to offer the blood of buffaloes, hogs, and sheep, to the destroying power. The inhabitants of the neighbouring hamlets attempt to prevent his approach by planting thorns in the paths which lead towards the infected place.

#### VI. *Nadzu Pennu, the Village God.*

His functions. Victims and priest.

The Nadzu Pennu, or Village God, is the guardian deity of every hamlet. These universal lares are the great objects of the domestic and familiar worship of the Khonds; the ruin or prosperity of villages is in their power; their aid is implored as patrons in every undertaking; vows are made and registered to them in sickness, and the village deity is especially invoked as Lucina. In Orissa and Telingana the rural gods, who bear the same designation, are Hindu gods localized and assumed as patron deities, but the Nadzu Pennu of the Khonds appears to be a local influence quite distinct from the greater divinities.

This god is familiarly approached by all at his shrine, which is simply marked by a stone placed under the cotton-tree planted in the centre of every village on its foundation. Sheep, fowls, and pigs, with grain and fruit, are his offerings. The village abbaya is his priest, but any one may minister for himself at his altar. "Nadzu" is the Khond word for a village.

#### VII. *Soro Pennu, the Hill God.* VIII. *Jori Pennu, the God of Streams.* IX. *Gossa Pennu, the Forest God.*

Every hill and knoll in the Khond country has a name and a divinity who is called Soro Pennu, but to whom no formal wor-



ship is addressed. Jori Pennu is the God of Streams, but he has, in like manner, no peculiar rites. Gossa Pennu, the Forest God, has a locality within the limits of every village where the following observances are paid to him, at least in the southern districts.

That timber may never be wanting in case of accidents from fire or from enemies, a considerable grove, generally of dammar, is uniformly dedicated by every village to Gossa Pennu, and religiously preserved. It is consecrated by the priest, by drawing a line round it with a bamboo split at one end, and having a fowl, an offering to the god, attached to the other. The bird is then sacrificed, with the usual accompaniments of rice and an addled egg, in the centre of the grove, the names of all the other gods being invoked after that of the sylvan deity. The young trees of this wood are occasionally pruned, but not a twig is cut for use without the formal consent of the village, nor can the axe even then be applied before Gossa Pennu has been propitiated by the sacrifice of a sheep or a hog.

#### X. *Munda Pennu, the Tank God.*

The Khonds carefully collect for the purpose of irrigation the waters of their rivulets near their sources, by means of rude weak dams, called "Munda," and they assiduously sacrifice sheep and fowls to Munda Pennu, under the nearest tree, praying him to preserve these embankments.

#### XI. *Sugu Pennu, or Sidruju Pennu, the God of Fountains.*

The Gods of Fountains are amongst the Khonds objects of the most anxious and regular worship. When a spring dries up, the priest is instantly sent for by the despairing villagers, and conjured to bring back the water, with promises of all that they can command. He plucks the cocoon of a silkworm from a bamboo tree, and in the dead of night steals to some living fountain, to endeavour to induce the god to transfer a portion of its waters to the deserted spring; at the imminent risk of his own life, if his errand should become known to the proprietors of the water which is thus to be wiled away.

The kuttagottaru, or priest, remains a long time alone over the spring, muttering incantations, by which he generally prevails with Sugu Pennu. He then fills the cocoon from the spring, and returns to the dry fountain, repeating charms as he goes, while it is

believed that a stream of water follows his footsteps under ground. The abbaya, with a party of old men who have fasted the preceding day (the presence of women being here peculiarly fatal, while that of youths is also interdicted), awaits his return at the deserted well. Its basin is now cleared out and the cocoon-cup of water is placed in it. The priest then sacrifices a sheep or a hog to Sugu Pennu, who either immediately renews the spring, or gives signs of satisfaction which are always followed by its reappearance in a day or two.

#### XII. *Pidzu Pennu, the God of Rain.*

When there is a failure of the rains, a whole tribe generally meets to invoke Pidzu Pennu. Quarrels are now forgotten or suspended, and all go forth, men, women, and children, accompanied by the loudest music, the men shouting and capering madly in circles. The God of Showers is sought at some old appointed tree or rock. While some keep up the dance without intermission, others strip and cook the victims, which are bullocks, sheep, or hogs, and which are sacrificed with invocations by the kuttagottaru. He first eats with the old men, who have fasted from the preceding day. Then the young men eat: and finally the women and children, who have sat by, receive their share.

#### XIII. *Pilamu Pennu, the God of Hunting.*

When a hunting party is formed, the Khonds always require the priest to propitiate the God of the Chase. He piles the weapons of the huntsmen by a rivulet, sprinkles water over them with a handful of long grass, and sacrifices a fowl to the god, who, if propitious, enables him to indicate the direction in which the chase is to be pursued, and occasionally to devote so many wild hogs, hares, &c. to fall. A hunting party generally consists of from thirty to fifty persons, who drive and mob the game, killing it with their arrows, slings, and axes. The hot weather is the season for sport. The Khonds, strange to say, are unacquainted with the use of poison for their arrows, although the neighbouring Sourahs have a poison said to be so active as soon to kill a tiger.

#### XIV. *The God of Births.*

When the birth of a child does not take place at the expected time, the priest is immediately put in requisition, as on every other conceivable occasion of doubt or difficulty amongst the Khonds.

He takes the woman to the place of confluence of two streams, sprinkles water over her, and makes an offering to the deity. When any animal fails in fertility, the same god is appealed to.

## THE KHOND LOCAL DIVINITIES.

### I. *Deceased Ancestors.*

The worship of deceased ancestors is a striking and important feature of the Khond religion. The more distinguished fathers of the tribe, of its branches, or of its subdivisions, are all remembered by the priests, their sanctity growing with the remoteness of the period of their deaths; and they are invoked in endless array, after the gods who are universally worshipped, at every religious festival.

Distinction is generally achieved amongst the Khonds, either by the conquest of land from the waste, or by success in battle; and deceased ancestors are, in consequence, chiefly invoked to give prosperity to the labours in the field, and victory to the arms of their descendants. But they are propitiated upon every occasion of public worship whatever; and it is said that a perfectly accomplished priest takes between three and four hours to recite his roll of gods and deified men.

### II. *Pitabaldi.*

His name. Where worshipped. His shrine. Offerings.

Pitabaldi is a compound Orissan word, signifying "Great Father God." This deity is worshipped in Chokapaud, Hodzoghoro, Ogdur, and Nowsagur; while in the western and southern Khond districts his name is unknown. His symbol is a stone smeared with turmeric, placed under a lofty forest tree, where tradition generally records that a rift once marked his passage into or his emergence from the earth. Pitabaldi has a temple by a grove at Godrisye, between Gattigudu and Boni. It is a shed ten or twelve feet square, with a raised floor. Within is a low vacant mud enclosure two feet in diameter. In front stands a post to which victims are bound for sacrifice.

To Pitabaldi are due two yearly offerings, one at seed time, the other at harvest. They usually consist of a goat or a few fowls, with milk, turmeric, rice, ghee, and incense; and buffaloes are occasionally sacrificed. The blood of the victim is partly spilt on the rice of the offering, partly allowed to sink into the soil, where the rift is supposed to have existed.

III. *Bandri Pennu.*

His Shrines. Appeared in a material form at Boropall. Effects of his removal.

Bandri Pennu enjoys great influence in the district of Nowsagur in the zemindary of Daspallah, where he is manifested in a material form, and has a temple. In Borogutza he has also a shrine, which is kept by Pedda Dehri, the patriarch of the subdivision, and which is exactly similar in form to that of Pitabaldi in Godrisye. Of this deity, the present Magi, the Patriarch of Nowsagur, states that he manifested himself at Boropall, in the form under which he is now adored there, some years ago, upon the occasion of his (the Magi's) marriage.

The god was found in the large dish of rice which, according to custom, his wife's mother at that ceremony placed upon his head. Its material I was assured is neither gold, silver, wood, iron, stone, nor any other known substance. It is deposited in a small building under the guardianship of a Hindu priest, who is entertained for this service, and who at the time of my visit was unfortunately absent at some distance with the key.

The Raja of Daspallah a few years ago carried away this sacred symbol by force, when the village of Boropall was nearly depopulated by disease and tigers. The deity was afterwards restored, and these plagues ceased. Bandri Pennu and Pitabaldi are worshipped with similar rites.

IV. *Bahman Pennu.* V. *Bahmundi Pennu.*

Bahman Pennu, apparently the Brahman god, and Bahmundi Pennu, of suspicious similarity in point of sound, are honoured with rites similar to those paid to Pitabaldi in the districts to the eastward of the great table land, where the Khonds have perhaps been most exposed to impressions from Hinduism. Bahmundi Pennu is also worshipped in Tenteliaghor. It may be observed that local tradition speaks of the existence of a Hindu city founded by Rama (on his return from Ceylon) in Chokapaud, where these deities are chiefly adored. My time unfortunately did not admit of my examining the remains of one or two Hindu temples which exist there.

VI. *Dhungarri Pennu.*

His Worship.

This deity is worshipped only in the districts of Hodzoghoro and Tenteliaghor. In him the Khonds appear to adore an influ-

ence which is new to ceremonial worship, namely, the conservative principle, or rather that of things as they were.

Upon a lofty mountain, the fitting altar of Dhungarri, the blood of victims is annually poured out before an immense concourse of devotees, whose single aspiration is, "May we ever live as did our forefathers, and may our children hereafter live like us!"

The greater part of the population whose predominant sentiment is thus expressed, appeared to me under circumstances peculiarly unfavourable to minute inquiry upon any subject.

The mowi tree had just blossomed, and in the drunken festival with which its flowers are welcomed, I beheld the dreadful spectacle of the male population of an entire community, amongst which my route lay for two days, deprived of reason. But no woman added degradation to the scene.

To Dhungarri are sacrificed buffaloes, goats, and pigs.

#### VII. *Singa Pennu.*

*Singa Pennu* manifested at Ogdur. Stolen. His Nature.

The god *Singa Pennu*, according to the chief of Ogdur, in which district alone he is worshipped, rose from the earth in the form of a piece of iron, which was called "*Homa Pennu*," (the word "*Homa*" having no meaning in the Khond language,) until the deity revealed his true name, "*Singa*," (which is equally without meaning,) to his priest in a dream. The late Raja Jugraj of Boad adorned the sacred symbol with a silver top, when it was stolen by an impious Khond. The thief perished miserably, with a smith, his accomplice, who attempted to convert the deity into an axe. The mother of the former replaced the sacred iron, when a temple was for safety built over it.

The habits of this god are destructive. The tree under which he is placed certainly dies. If he is laid in water, it dries up. His priest cannot expect to survive in his service the term of four years, while he cannot decline the fearful office.

Thus it appears, that of the four rude temples which are found in these districts, that of *Bandri Pennu* at Boropall and that of *Singa Pennu*, have been recently constructed for the safe custody of symbols which had been previously abstracted by force or stealth. A third, which is vacant, stands in Borogutza in honour of the god, while the fourth, in Chokapaud, is devoted to *Pita-baldi*, whose worship is almost exclusively in Hindu hands. No other Khond temples, I believe, exist in Goomsur, Boad, or Das-pallah.

The Khonds appear to be as far removed from the ideas which give rise to temples and to idol worship, from the idea of confining or of personifying the divine presence, as were the Persian priests who incited Xerxes to burn the temples of the Greeks, on the ground of their being inconsistent with the very nature of God<sup>1</sup>.

A moss-grown rock on the hill of Koladah in Goomsur, which bore a rude natural resemblance to a man seated on a tiger, had been from the remotest antiquity an object of superstitious veneration. The father of the late Raja of Goomsur, in compliment to the Jakso tribe, whose former territory included Koladah, built a temple near the spot, and placed within it the image of a man and tiger of the best Hindu workmanship. The gaudy idol remained entirely unnoticed, while the Khonds continued to regard the rude natural image with unabated reverence. In the year 1815, however, when a British force took possession of Koladah, a party of Sepoys chanced to bivouack in the temple. Their camp fire was allowed to scorch the idol, and a Mussulman contemptuously pricked the nose of the tiger with his bayonet. Blood, say the Khonds, flowed from the wound, and a pestilence wasted the English camp, which proved that their divinity had transferred his presence from his ancient hill to the new Hindu shrine. Thither they declined to follow him, but the tiger rock has since ceased to be in any degree an object of religious regard<sup>2</sup>.

VIII. *Dommosinghani*. IX. *Potterghor*. X. *Pinjai*.  
XI. *Kankali*. XII. *Bulinda Silenda*.

*Dommosinghani*, tutelary god of *Dommosinghi*. *Potterghor* and *Pinjai*, names of places. *Bulinda Silenda* and *Kankali*, unknown.

*Dommosinghani* is simply the tutelary god of the district of *Dommosinghi*, and no doubt represents, in accordance with all analogy, a vague sense of the dependence of the community upon the divine power. The abbayas are his priests.

*Potterghor* and *Pinjai* are names of places (I believe of ghauts) in the tracts in which the deities so designated are recognised.

<sup>1</sup> There is reason to believe that the Romans, during the first 170 years after the foundation of their city, had no images of their gods. See *Arnold's History of Rome*, vol. i., p. 58.

<sup>2</sup> There is a rock in Nepal which is considered to be a god, and a British officer threw the people into the greatest excitement by inadvertently breaking off the nose of the deity as a geological specimen.

Bulinda Silenda and Kunkali are local gods of the district of Panchora, with respect to whom I possess no exact information.

*The Hindu Goddess Kali.*

The Khonds have adopted, in addition to their native gods, the Goddess Kali, the chief deity of the Hindus in this quarter of Orissa, and whom all the Zemindars recently adored, and in many cases no doubt still adore, by the rite of human sacrifice. Her worship is everywhere postponed by the Khonds to that of their principal native divinities, except perhaps at Ranigunje in Atkombo, where the head of the priestly branch of the chief Khourou family is her minister, and where her service is apparently combined with that of the Earth God, the offerings thus acquiring a double significance. Kali is principally recognised under these three names. Bhadravallu, Bhairavi and Komeswari. Her ordinary offerings buffaloes, goats, and fowls.

Such are the Khond divinities and their worship in a part of Boad and of Goomsur. I proceed to speak of the institution of priesthood,

## SECTION II.

### THE KHOND PRIESTHOOD.

**Origin.** Of two classes.—1. The Khond priesthood. Appellations. In what respect distinguished from the community. Magical arts. Equality. Emoluments.—2. Hindu priests.

The Khond priesthood, like every other priesthood, lays claim to divine institution. Each deity originally appointed ministers in every tribe by which he was recognised, and the office is hereditary, descending usually, but not necessarily, to eldest sons. But no exclusive privilege is transmitted by descent; the priestly office may be assumed by any one who chooses to assert a call to the service of a god, the mandate being communicated in a dream or vision, and the ministry of any divinity may apparently be laid aside at pleasure. Hence the Khond priesthood has no tendency to form a caste.

In addition to the native priesthood, a class of Hindus, whose number is not considerable, is employed by the Khonds in the service of their gods. The Khond priesthood conducts exclusively the worship of the Earth God, and generally that of the deities who

are universally acknowledged, while it divides with the Hindu ministers the service of the local gods and of Kali, and apparently according to no fixed rules.

In Goomsur and the northern parts of Boad, the Khond name for a priest is "Kuttagottaru" or "Torambu;" in the western districts it is "Jakoro." The Orissan appellations of "Janni" and "Dehri" are however occasionally adopted, the former generally by the priests of the Earth God, the latter by those of the local deities and of Kali.

Every Khond village has its priest. The Khond priest is separated from the rest of the community only in these respects:—  
1st. He may not eat with laymen nor partake of food prepared by their hands. This rule does not however extend to the liquor cup, of which he partakes freely at feasts, while a portion of uncooked flesh is reserved for him. His family does not share in this restriction.

2ndly. The priest in no case bears arms. When war is undertaken with enemies of a different race, he first invokes the Earth God as above stated, and then Loha Pennu. When the contest is between Khond tribes, he makes an offering to the latter deity alone, in the space which divides the combatants: and on the completion of the rite, flourishes his axe twice in the air, utters shouts of defiance, and retires while the conflict is joined.

The Khonds, like all other people at the same stage of advancement, believe in charms and incantations, but their superstition is very slightly connected with medicine. One of the chief duties of a priest, however, is to discover the causes of sickness, as of every other species of misfortune, either in the immediate displeasure of some deity, or of some ancestor ungratified by food and honours, or in the magical arts of an enemy.

Upon such occasions the Kuttagottaru seats himself by the afflicted person, and taking some rice divides it into small heaps, each dedicated to a god, or to a deceased ancestor whom he names. He then balances a sickle with a thread, places a few grains upon each end, and calls all the gods by name. The sickle is slightly agitated; a god has come and perched by the offering; the priest declares his name, and lays down the sickle; he then counts the heap of rice dedicated to that god; if odd in number the deity is offended, if even he is pleased. In the former case the priest becomes full of the god, shakes his head frantically with dishevelled hair, and utters wild incoherent sentences. The patient addresses the god in his minister, inquiring humbly the cause of



his displeasure. The minister refers to the god's neglected worship;—sorrow is professed on the other hand, and forgiveness prayed; and the sacrifices prescribed by the priest are instantly performed. Deceased ancestors are invoked as gods, and are appeased by offerings of fowls, rice, and liquor. The consecrated rice with the brass vessels used in these ceremonies, are the perquisite of the priest.

The presence of the Khond priest at the marriage feast, as noticed in the preceding section, seems to be chiefly for the prevention of injury to the parties by the magical arts of ill-wishers. His office on the occasions of the birth, or the naming of a child, is to decide which ancestor of the family is born again. He is a guest at funeral feasts, as at all other domestic ceremonies.

The members of the priesthood, in accordance with the general spirit of Khond society, are perfectly equal in point of rank, although some degree of traditional precedence is necessarily enjoyed by the older priestly families. They have neither privileges nor endowments in any form. Their land is not tilled by the common labour, as is the custom among the neighbouring Sourahs. They have an honourable place at all public and private festivals, and receive, as above observed, perquisites of some value at certain ceremonies, and also occasional harvest offerings of good-will, when the deity to whom they minister has proved propitious.

The Hindu priesthood employed by the Khonds is composed partly of the class of hereditary civil officers, the Bissyés, Mahalikus, Dalbehras, &c., partly of other employés, who are usually of Sudra caste. In Chokapaud, Hodzoghoro, and Tenteliaghor, the former minister to Pitabaldi. In Nowsagur some of the latter are entertained for the service of Bandri Pennu. Hindus generally perform the worship of Kali, although a Khond Dehri discharges her rites under the name of Bhadrawallu, at Ranigunje of Atkombo; and in the western districts Khond priests frequently minister to her as Komeswari. These Sudra priests are generally supported, as at Boropall in Nowsagur, by allotments of land. It is curious to mark in every collection, as in this instance, of a few priests maintained by a grant of the soil for the stated ministrations of a temple, the germ of an endowed ecclesiastical corporation. Of the degree of influence enjoyed by the Khond priesthood, I shall afterwards speak.

## SECTION III.

OF THE INFLUENCE WHICH THE RELIGION OF THE KHONDS  
EXERTS UPON SOCIETY.

Such appear to be the leading ideas and the priestly institutions of the Khond superstition.

It is doubtful whether it may be most correctly designated, in general terms, a vague confused theism with a subordinate demonology, or a demonology in which the idea of a supreme power is distinctly to be traced.

This rude faith bears reference to morality only upon a single point, that of the observance of truth; and the Khonds are, I believe, inferior in veracity to no people in the world. The violation of an oath is believed to be invariably punished by the divine wrath; although their ideas respecting these sanctions are not free from casuistry. I saw a tribe of a district of which one half of the population had perished a few years before by small-pox; and the misfortune was entirely attributed to its infraction of an ancient compact confirmed by an oath with a neighbouring Zemindar. When the visitation ceased, the oath was humbly and solemnly renewed. It is in all cases imperative to tell the truth, except when deception is necessary to save the life of a guest, which is sacred, and is to be thought of before the life even of a child of his protector.

The denial of a debt is a breach of this principle which is held to be highly sinful. "Let a man," say the Khonds, "give up all he has to his creditor, and beg a sheep to begin the world with; and by the favor of the gods he shall prosper. Let him have flocks and herds, and deny a just debt, and not a single sheep shall remain to him." The denial of a gift, or of any onerous engagement whatever, is equally offensive to the gods: and is, I believe, a very rare occurrence amongst the Khonds.

But the first duty which the gods have imposed upon man, say this people, is that of hospitality. Persons guilty of the neglect of established observances are punished by the divine wrath, either during their current lives, or when they afterwards return to animate other bodies; and the penalties are death, poverty, disease, the loss of children, and every other form of calamity.

The Khond religion presents no view relative to the future destiny of man, except that he has an imperishable spirit, which

animates an endless succession of human forms, and generally in the order of direct descent. It is held generally, that a man has three lives or spirits: first, an animal life, subject to death; secondly, a life which survives the death of the body, and animates an endless succession of corporeal forms; and, thirdly, a spirit which is identified in its nature with the Deity, possesses power over the affairs of men, and is worshipped as a god.

All the Khonds hold, I believe, the very peculiar doctrine, that death is not the necessary and appointed lot of man, but that it is incurred only as a special penalty for offences against the gods; and this, either through ordinary means,—as by a wound received in battle,—or through the agency of men who are gifted by the gods with power to destroy, as by transforming themselves into wild beasts; or by magicians, who have acquired the power to destroy life by impious arts, purely human.

The Khond divinities are all confined to the limits of the earth. Within it they are believed to reside, emerging and retiring at will by chinks which are occasionally discovered to their worshippers, and they all assume earthly forms at pleasure; the Earth God, for example, adopting that of the tiger as emblematic of his nature, or as convenient for purposes of wrath.

The priesthood of the chief god is composed, as has been already mentioned, exclusively of Khonds; that of the lesser divinities of both Khonds and Hindus.

The point of development which this superstition has attained, appears to be nearly that which is ascribed to the religion of Greece in the Pelasgic period, and not remote from that which is attributed to the superstition of ancient Germany.

In terms of the former mythology it is the reign of Coelus and of Terra, of night and the starry signs, the genii and the nymphs, and the "gods now forgotten" of Hesiod; before the dynasties of Olympus, to which later speculations assigned a cosmological character; before Homer and the bards conferred unity and nationality upon the perplexed mythical circles of Greece; when the primary deities were honoured in the forms of nature over which they presided, and the lesser and the derived gods were symbolically adored in blocks of wood and stone, as were the Goddess of Fertility at Paphos, and the Graces at Orchomenos.

If this superstition neither tends to raise the minds of its professors above the earth, nor imposes upon them any duties towards their kind, it acts, like all systems of religious belief bearing the same general character, as a strong and fruitful principle of asso-

ciation. Participation in the public worship and contribution to the charges of its ceremonial, are, as has been observed, the first conditions of association in a tribe, applicable even to strangers of a different race and faith. And the bond of a common altar and a distinctive worship is seen to survive the blended ties which arise from community of institutions, of manners, of traditions, and of language.

Many families who, living insulated in the wilder tracts of the Zemindaries, or mingling in close intercourse with the Hindu population, have lost most of their distinctive ideas, habits, and sentiments, and wholly or in part their ancient tongue, remain firmly bound to their race by the tie of religious sympathy. They visit the mountain districts periodically to participate in the great rite; while, on the other hand, the hill tribes, who have maintained their usages pure, endeavour, by conveying a share of the victims to the fields of important individuals or families (as in the case of Dora Bissye) who may incline to exchange their ancestral faith for that of the more civilized people, to make them involuntary partakers in the sacrifices, and to retain them within the ancient bond of social communion.

The festival of the Earth God, in fact, tends to maintain a sense of unity betwixt the Khond tribes, analogous to that which the sacred games at Elis produced amongst the various and minutely divided population of ancient Greece.

The practice of human sacrifice does not appear to exert upon the character of this rude people an influence so eminently unfavourable to humanity as it has done in the case of some other races of mankind.

This may be at least partially accounted for where the victims have been prisoners of war. When the Mexicans loaded the altar of their horrid deity with slaughtered captives, or when the admiral of the fleet of Xerxes sacrificed upon his prow the commander of the first galley which was taken at Salamis, the indulgence of an inhuman passion at war with the first principles of society was sanctioned by association with the worship of the deity.

Amongst the Khonds, on the other hand, the sacrifice of human life is combined with the gratification of no anti-social or ferocious passion, although it is accompanied by indulgence in the worst forms of sensual excess.

The rite is discharged with feelings almost purely religious, in fearful obedience to the express mandate of the terrible power whose wrath it is believed to place in abeyance. And the offerings

are lives free, unforfeited, undegraded, generally in innocent childhood, belonging to a different race from the immolators, procured by persons of another faith, and acquired by scrupulous purchase, which the Khonds believe to confer a perfect title. They are obtained and offered up without passion. When the axes of the crowd are raised to complete the rite, the justificatory exclamation is upon their lips, "We bought you with a price!"

The Khond priesthood being separated in no respect from the community, being dispersed everywhere throughout it, and participating upon equal grounds in all its interests and engagements, is obviously in a highly favourable situation for the acquisition of power; and its influence as a body of interpreters of the will of the deity, of mediators betwixt him and man, and of adepts in magical arts, is, generally speaking, great.

The civil and the religious heads of tribes, although some districts are vexed by their rivalry, generally act in concert; for while the former desire to strengthen their hands as temporal rulers by the aid of superstition, the latter aim at influence through alliance with the secular authority.

When the place of an abbaya, whose race has become extinct, is to be supplied by popular election, the community is almost uniformly guided in its choice by the kuttagottaru, who does not omit upon such occasions to consult with vigils and fasting the will of the deity. And when in the public council a priest of venerable age and character demands, "Will men not listen to those to whom God listens?" the appeal is rarely resisted.

**ART. XXI. *The Armorial Bearings of Maharaja Kali Krishna Bahadur, of Calcutta.***

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THE accompanying drawing represents the Arms granted by the Governor-General of India, Lord William H. C. Bentinck, to Maharaja Kali Krishna Bahadur, a native of rank and distinction at Calcutta, in testimony of the high sense entertained by his Lordship and the British Government in India of the zeal and exertions of the Raja in furthering the cause of education, and of his own talents and labours in the pursuit and extension of knowledge.

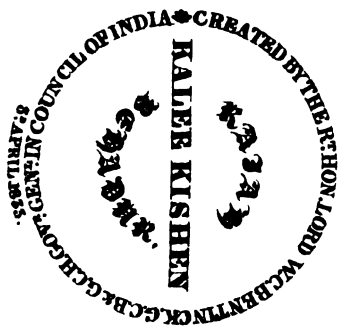
The peculiar character of these armorial bearings having attracted attention in several quarters, it seemed not out of place in the present publication to give an accurate drawing of them, and at the time to add a brief notice of the distinguished native gentleman on whom these novel honours were granted.

The Raja Deva Kali Krishna Bahadur is one of a family which has for nearly a century been marked for its attachment to the English Government in India; and several members of which have received marks of approbation from our authorities there. The grandfather of Kali Krishna was the Raja Nava Krishna (commonly called Nob Kissen), who in 1750 was Persian teacher to Warren Hastings; and who, in 1773, received from Lord Clive the titles of Raja and Bahadur in consideration of the services rendered by him to the English. He was at the same time presented with a gold medal, and an elephant.

His father was Raj Krishna, endowed with the titles of Raja and Bahadur by Sir John Macpherson, when Governor-General of India; a scholar of extensive attainments in several Oriental languages, and the author of "Seven Divans," and an historical work in the Persian and Hindustani tongues. He died in 1823, at the age of 42.

The present Raja has acquired considerable reputation as a scholar, by his translations and compositions in English, and in several Oriental languages.

The merits of Kali Krishna have been recognised by His Majesty Louis Philippe, and by William, King of Holland, by the presentation of medals, in acknowledgment of copies of his works transmitted to their Majesties.







He has also been four times honoured with *Khelats* by the late and reigning kings of Oude,—both patrons of literary merit.

In a little work published at Calcutta, giving an account of the Raja and his family, it is recorded, that on the 3rd of April, 1833, when the gold medal bearing the arms engraved upon it was presented, Raja Kali Krishna was “honored with a *khelat*, or honorary dress, consisting of a pearl necklace, *jighá*, *surpéch* of precious stones, sword and shield; and permitted to have for his attendants, sword and spear-bearers; to use a carriage and four horses; and to wear a gold medal,” of which the following is a correct description: “On the obverse, and immediately within the rim of the upper semi-circle, is the motto, ‘MAGNUM VERTIGAL EST ERUDITIO.’ In the centre is a coat of arms, representing by an *orb* the Indian shield, which is *argent* grounded, and *or* bordered. In the centre is an elephant properly armed and supported, *dexter*, by a lion *rampant regardant*; *sinister*, by a tiger *rampant regardant*. The coronet is the Rajah’s turban jewelled; and on the riband are the words, ‘VIDYA RATNAM MAHA-DEHANAM,’ in Dévanágari characters. These words are a version of the Latin inscription into Sanskrit. The riband is ornamented by the *tulasi*, or sacred basil, being an emblem of Hinduism much revered by all Hindus, but more particularly by the followers of Vishnu.)

“On the reverse, and around the margin of the medal, are the words, ‘CREATED BY THE RIGHT HONORABLE LORD W. C. BENTINCK, G.C.B. AND G.C.H., GOVERNOR-GENERAL IN COUNCIL OF INDIA,’ with the date under it, ‘3 APRIL, 1833.’ In the centre, and in a straight line, is the name ‘KALEE KISHEN;’ above and under the name are the titles ‘RAJAH’ and ‘BEHADUR,’ within the same circle. The letters and figures are in plain print, except the titles *Rajah* and *Behadur*, which are in Old English characters.”

The Raja was soon afterwards authorized by the Right Hon. Sir Chas. T. Metcalfe, Bart., to use a seal with this inscription:—

“Rajah Kalee-Krishna Bahadur, the faithful subject of His Most Gracious Majesty the King of Great Britain and Ireland, 1834.”

## NOTE TO THE PAPER OF LIEUT. NEWBOLD,

*Page 78.*

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*Extract of a Letter from SIR JOHN HERSCHEL to LIEUT. NEWBOLD.*

“ It is a phenomenon I have long wished for information upon ; as, after reading what Grey and Seetzen have said about it, it seemed involved in great mystery. Your account of it throws on it the only ray of elucidation I have yet seen, in the festoon or ripply waves of the sand. These I conceive (with the wind sweeping over them, and partially obstructed by them) to be, not a consequence of the musical tone, but a cause of it; the regularity (though rude) of the ripple causing alternations in the density of the air analogous to those which obtain in series of sound-waves. Possibly, also, the heated state of the particles mixed up with the air may have an influence, as no similar tone is heard when wind sweeps over a ripple-marked wet sea beach.”

ART. XXII.—*Mineral Resources of Southern India. No. 4.*  
*Gold Tracts. By* LIEUT. NEWBOLD, F.R.S. &c., *Madras Army.*

(Read June 4th, 1842.)

THOUGH it is my intention to confine this series of papers, as much as possible, to notices of mineral localities within the limits of Southern India, I have deemed right, in this paper, with reference to the importance of the subject, to travel beyond these boundaries, and cast a cursory glance at the vast geographical extent over which auriferous deposits are scattered throughout our Indian possessions; at the same time particularizing, in a more detailed form, such localities within the specified limits as have been undescribed by former observers: namely, those of the Southern Mahratta country, of which I had given a cursory notice, prior to quitting Madras, in the Journal of the Branch Society for January, 1840. Of the gold tracts on the Malay peninsula detailed accounts will be found in my work on our settlements in that part of the globe; therefore little will be said of them here.

It is certain that gold occurs in large deposits in our Oriental possessions from the Himalayas to Singapore, or from 30° N. lat. to the equator; and it is equally true that these deposits have been, comparatively speaking, totally unexplored, so far as regards the application of *practical* European skill, capital, and experience. In many instances, worked in the rudest way by the natives, they have yielded remunerating returns; but the greater portion have been deserted, or only occasionally worked, from their supposed poverty. The unsatisfactory mode in which we have usually tested the value of such deposits has been to employ natives under the superintendence of a civil or military servant of the government, who, however capable in other respects, has had invariably little or no practical knowledge in mining. The speculations of private individuals have failed from similar causes, and want of capital. The auriferous sands of the Ural, externally as poor as those of India, and until lately entirely neglected, now yield a large annual sum to the Russian government, under the management of experienced miners and the shelter of Imperial protection. Until similar stimuli are applied to the latent mineral resources of India, we may in vain hope for their development. I should certainly suggest the examination of

the most promising localities,—of Mysore, Malabar, and the Southern Mahratta country,—by experienced miners or engineers from the gold tracts of the Tyrol, Ural, or Brazil.

*Gold Tract in the Southern Mahratta Country.*

In the Southern Mahratta country, between the 15th and 16th degrees of North lat. and 75th and 76th of East long., there is an auriferous tract embracing a range of hills termed the Kupput-gode, in which the existence of gold has been known to the former native chiefs of that part of India for ages back. Christie, in his valuable paper on the Geology of the Southern Mahratta country, does not mention the occurrence of this metal, nor does he allude to it in his slight notice of the Kupput-gode range. We may therefore reasonably infer that he either was ignorant or uncertain of its existence; and that the merit of its first having been brought to the notice of the English government may be fairly attributed to the researches of a highly-intelligent native inhabitant of Darwar, named Trimulrow. This Brahman youth, whose acquirements and thirst after useful knowledge do credit to the tuition of the Rev. Dr. Wilson of Bombay, after whose system of education he was brought up, informs me that, having heard that there were many medicinal plants, flints, diamonds, gold sand, coal, and iron ore to be found among the hills I have just mentioned, determined to explore them, and accordingly did so in the month of March, 1839; and gives us an interesting account of his trip, in the *Oriental Christian Spectator* for July, 1839.

He did not succeed in his attempt to visit the *situs* of these minerals, with the exception of that of the iron ore, which he describes as having met with in his ascent of the hills. Four men, however, whom he sent subsequently to the hills, brought specimens of some of the minerals mentioned; but were not successful in their search after diamonds, which it is probable, from the nature of the formation, do not exist in the vicinity. The sandstone formation of Noulgoond, a little to the N. W., would be a more likely locality for the occurrence of this gem. The "coal" was pronounced, by the editor of the journal in which Trimulrow's notes were published, an "iron ore, probably containing some plum-bago." From the dark, shining appearance of this mineral, the natives had given it the name of Iddali Kallu, charcoal-stone; hence it was mistaken for coal. The existence of gold and flint was proved, beyond the possibility of doubt, by specimens of each; which, with a few others of the surrounding formation, were for-

warded by Trimulrow to Dr. Wilson for deposit in the museum of the Bombay branch of the Royal Asiatic Society.

During a recent tour through the Southern Mahratta country, I was informed at Darwar, by Mr. Pelly, assistant to the collector, and also by Trimulrow, that the locality whence the specimens of gold dust had been procured, was the bed of a rivulet near the village of Doni, two or three miles south of Dummul. I subsequently found, on visiting the hills, that gold also existed in the bed of the rivulet near Hurti, a little to the south of Gudduck, in the Soltoor Nala; and it is also said to be found near Chick Mulgoond, in the Kor taluk.

*Auriferous formation.*—The formation of the Kupput-gode range is principally gneiss, hornblende, and mica schists, passing into clay, flinty and chloritic slates;—in their upper portions ferruginous and quartzose; and, in some localities, capped by thin beds of laterite. They contain thin beds and veins of a beautifully white subcrystalline limestone, resembling statuary marble, which near its contact with the hornblende schist acquires a greenish tinge. Gneiss occurs principally on the flank of the hills,—both felspathic and quartzose, and often much weathered. In some situations the mica abounds so much that hand-specimens of the rock would be termed mica slate: in others, this mineral is entirely wanting, and it then consists of quartz and felspar, possessing a distinctly laminar arrangement. Velvet black crystals of schorl, and green actinolite are found generally associated with the quartz veins. The quartz itself often assumes a roseate hue. The dip is nearly vertical at Dummul; near Gudduck I found it  $38^{\circ}$  towards the N. E.; direction of strata S.  $20^{\circ}$  E. On an examination of some of the higher peaks at an elevation of about 1000 feet above the plain, the dip is irregular and in some conical elevations quâquâversal.

The range derives its name from a small but sacred temple to Kupput Iswara, situated in a romantic defile near the summit of one of the highest peaks: it commences a little to the south of Gudduck, and runs with a curvilinear direction E. by S. diverging, as it approaches the western bank of the Tumbuddra, into three distinct chains, the principal of which appears to be continued on the opposite bank into the Ceded Districts. The two others terminate at unequal distances before reaching the river. The extreme height of the range is about 1500 feet from the level of the plain. Its elevation and singular divergement is ascribable to the upheaving forces of an immense dyke of basaltic greenstone, which is seen occasionally protruding at the base and flanks of the range, and in the low

spaces extending between the divergements just alluded to. The developments of this plutonic rock are accompanied and marked by large deposits of a travertine-like kankar, with which the rocks in the vicinity are penetrated, and in some places overlaid. Considerable tendency to silicification is also remarked: the schists are profusely varied with quartz, white, roseate, a diaphanous blue, and black. Thin veins of basanite also penetrate the rock. I crossed the range near its western extremity, south of Gudduck, and passed along its northern flank to the village of Cuddumpur, above which the range bifurcates. Near this the northern spur is crossed to Doni, a village situated between the two ranges considerably east from the point of divergement, and on the right bank of a rivulet which has its rise near the bifurcation, and runs easterly down the valley of Doni to the Dummul tanks, which it feeds. Its waters flow over a bed of sand and gravel resting on masses of granite and gneiss. Immediately opposite this village the gold dust is found mingled with the sand and pebbles of the bed of the stream; but, according to the natives on the spot, in quantities hardly sufficient to repay the washer.

The process of washing is carried on only after the rains by which the gold is brought down from its matrix in the hills, a short distance to the west. Little or no work is done during the dry season, but the place is crowded by the Jalgars, (native gold-washers,) immediately after any heavy fall of rain, when the profits treble the disbursements. The rivulets of Hurti and Soltoor, the latter about four koss from Doni, are more productive, though I did not see many persons at work at Hurti. The process of washing the gold is simple, and does not differ essentially from the mode adopted in Mysore, Malabar, or from that I have seen practised by Chinese gold-washers at Mount Ophir. After the larger pebbles and lighter quartzose sand are washed away, the gold dust is easily discernible in a black, shining, heavy sand that remains, most of the particles of which are powerfully attracted by the magnet—the granular magnetic iron ore of mineralogists. Menachanite is sometimes found mixed with it, and also, though rare, a few whitish metallic spangles, probably of platinum; comminuted fragments of malachite also occur: one, a little larger than the rest, contained an irregularly-shaped fragment of native copper, which, from its dark rough surface, I thought at first was hæmatite, but in endeavouring to break it with a smart blow of the hammer, I flattened it. A few small scattered grains of a grayish-white metal are seen, but rare. One of them had a slightly-yellow tinge, resembling the auriferous silver of Norway.

The largest of these metallic substances—a flattened, water-worn button about half the size of a pea, having a purplish-black *enduit*—on being submitted to re-agents, proved to consist almost entirely of silver. I should have been induced to suppose, from the scarcity of this metal in the rocks of India, that the presence of this fragment here had been adventitious, had I not discovered gray silver ore in a fragment of quartz shortly afterwards<sup>1</sup>.

Sir Whitelaw Ainslie informs us (*Mat. Med.*, vol. i., p. 562-3) that silver occurs in trifling quantities in Upper Hindustan. In Lower India, he was informed that Mr. W. Mainwaring found it in its native state in the Madura district, associated with zinc, sulphur, iron, fluoric acid, silica, and water, forming a yellow blende, perhaps somewhat similar to that found at Ratiborzlz in Bohemia. Captain Arthur, he states, was the first who discovered this metal in small quantities in Mysore, both in its native state, in thin plates, adhering to some specimens of gold crystallized in minute cubes, and mineralised with sulphur, iron, and earthy matter, forming a kind of brittle sulphuretted silver ore. Dr. Heyne (*Tracts*, pp. 315, 316) tells us that, in the Nellore and Calastry districts, on the Coromandel coast, a galena of lead, rich in silver, was found some years ago, and that the same ore has also been discovered eight miles north of Cuddapah. The mine had been, according to Ainslie, formerly worked by order of Tippoo, but abandoned because not sufficiently productive. It would appear, he adds, that the ore had been lately analysed in Bengal, and found to contain eleven per cent. of silver. But the specimens I brought recently from this locality, and now lodged in the Society's Museum, do not appear, from Mr. E. Solly's analysis, to contain silver. The pebbles and gravel composing the bed of the rivulet are derived from the surrounding formation—gneiss, and its associated schists, kankar, hæmatite, iron ore, quartz, and a few garnets.

The Jalgars have from time immemorial been acquainted with the art of collecting gold by amalgamation; it is formed into a ball with a small portion of mercury, washed and cleared from the sand, and placed on an ignited bit of charcoal or cowdung, which is blown into a glow by the operator's breath impelled through a hollow bamboo. The mercury is volatilized, and the gold remains.

They are ignorant of the art of refining it by cupellation or the liquid process, but contrive to bring it to a high state of purity by means of heating it—carefully avoiding fusion—with a mixture of

<sup>1</sup> For Lieut. Braddock's analysis of the ores I brought from this locality, *vide Madras Journal*, January, 1840, pp. 49, 50, 51.

cowdung, ashes, or old brick dust, and muriate of soda, in equal parts. The metal is beaten into thin plates, and piled up in alternate layers with this flux, to which a little borax is sometimes added, and the process repeated until the touch-stone evinces the requisite stage of purity. By this operation, it may be presumed that the muriatic acid evolved combines with and rids the gold of the silver or copper with which it is usually alloyed. The action of the ashes or brick-dust is chiefly mechanical, keeping the plates asunder, and permitting volatilization. The Egyptians, we are told by Agatharcides, also employed heat not carried to fusion, with muriate of soda, in purifying gold.

Many particles of gold are lost in the process of washing, and the whole of the mercury by volatilization; the former of which might be saved by the use of a magnet, and the latter by employing retorts for its sublimation.

The produce of the three rivulets of Hurti, Soltoor, and Doni is estimated at about 200 ounces per annum after an average monsoon. The gold occurs generally in flattened, irregularly-shaded spangles, and chiefly in the line of drainage or lowest part of the bed. The gold-washers do not appear to have attempted to trace the gold up to its matrix, which cannot be far distant. A Mussulman, who accompanied me to the spot, informed me that he obtained four rupees' worth of gold in two days. The hire of the three Jalgars, &c., whom he employed amounted to half that sum, leaving two rupees clear profit. The ancient lords of the soil, the Dessayes of Dummul; formerly levied a toll from the gold-washers, which ceased with the authority of the last chief, who was hanged, by order of the Duke of Wellington, over the gate of his own fortress, for firing on a flag of truce at the siege of that place.

Iron-stone and hæmatitic iron ore are smelted at Doni, and as the furnace was at work, I stepped in to witness the operation, which I found not to differ from the usual process adopted in Southern India, and which I have before described. The furnace was, as usual, of clay, worked by two bellows which kept up a constant blast. About one and a half maunds, or forty-eight pounds, are usually smelted during the day. The iron, after being roughly beaten into koralis, plough-shares, and other agricultural implements, sells at about two rupees the maund. The ore is twice smelted.

From what has been said above, the geognostic position of the gold in this auriferous tract is, doubtless, in veins and scattered grains in the primary schists, and is associated with quartz, iron



ore, menachanite, copper ore, and probably platinum and silver. Gold has an immensely-extended distribution in India, and particularly in that part of it termed the Peninsula. It is found in the sands of the Indus, the Irawadi, the Brahmaputra, and the Ningti; in those of the sacred Gundak, whose source is supposed to be among the loftiest peaks of the Himalayas; in those of the Infra Himalayan chain, of the hills of Kamaon, the Bhont Mahals, and Nahan, particularly those of the Raniganga and its tributaries, the Koh and the Phika; and also the Goomti and Dhela. The gold mines of Pakerguri, at the junction of the Donhiri stream with that of the Brahmaputra, produce, it is said, about 375 ounces annually. The sands of the Dikrung, too, which falls into the Brahmaputra, are celebrated for the remarkable fineness and purity of their gold. The beds of the rivers of Cuttack and Gondwana, the Mahanadi, with its innumerable branches, the Suvarna Reka, or Stream of the Golden Sands, the Lanji, the Godavery, and some parts of the bed of the Kistna, and the streams about Vizagapatam, are auriferous.

Proceeding still further south, we come to an auriferous tract, described by Lieutenant Warren in the Asiatic Annual Register, lying at the base of the Baterine hills in Mysore, near Baitmungalum, particularly in the immediate vicinity of Marcupum, Shapur, Warigaum, Dassera Cottapilly, and the Manigutta, Wullur, Yeldur, and Randur-Papanilly hills. It also occurs in this neighbourhood in the bed and banks of the Palaur, a river that takes its rise among the granite and gneiss clusters around Nandidrug, and in those of the Panaur near Karguri. To the west of Bangalore, in the bed of a rivulet that washes the base of a short chain of hills immediately to the S.W. of the village of Belladara, I discovered, in 1837, a few spangles of gold. Ainslie, in his *Materia Medica* (vol. i. p. 514), states that Captain Warren discovered a gold mine in Mysore in 1800, betwixt Annikal and Punganore: possibly those near the Baterine hills just alluded to.

Descending the peninsula towards Cape Comorin, gold is found abundantly in the sands of the rivers and rivulets of Malabar and Coimbatoor, and indeed in those of the whole of the country at the base of the Nilgherri and Khundah mountains, comprising an auriferous tract of about 1500 square miles. The most noted localities are those of Malliyalum, near the frontier of Mysore, noticed by Dr. Clark (*Madras Journal* for January, 1839, p. 120), where the golden region is rented from Government by a native chief, and Nilambur, the mines of which have been described by the late Dr.

Ward; according to whom, the produce was about one grain of gold from sixty-five pounds of earth, and the annual gross amount 750 ounces. The mines in the Wynad district then worked were those of Cherankode Devala, Nelyalam, Ponery, and Pulyode. In Calicut, the gold is found in the beds of the Srupumji, the Baypur, Polwye, and Tirumpaddy; in Kurmenad, the Punaur and Malaparam streams; in Nedinganad, the Pandalur and Aliparamb; in Shernad, the Kudalaondy and Parpanangady; in Ernad, the Kapil and Aripnad; and also the Tirumaly and Kundanad hills.

I have not been able to trace the existence of gold farther south than Madura, where, according to Ainslie, (*Mat. Med.*, vol. i., p. 514.) "it was discovered by the late Mr. Mainwaring, mineralised by means of zinc, constituting a blende, perhaps resembling somewhat the Schemnitz blende of Hungary; and we know, from Cronstedt, that the zinc ores of Schemnitz contain silver which is rich in gold." Ainslie does not mention the nature of the formation in which this mineralised gold occurs; but we know that granite and the primary schists occupy the greater portion of this part of India.

The geognostic position of gold, in all the localities I have enumerated, appears to be in the primary schists, viz., gneiss, mica-slate, clay-slate, and hornblende schist, particularly near the line of their contact with granite or basaltic dykes, where we generally find the tendency to siliceous and metallic development unusually great. The gold in these situations is almost invariably discovered either in thin veins or disseminated in grains in the veins and beds of quartz, associated with iron ore, and sometimes platinum, and alloyed with small proportions of silver and copper, or in the tracts of alluvial soil, beds of clay and sands, the washings of primary rocks; all of which, in the auriferous tracts, will be found to abound in siliceous and ferruginous matter. The sands generally contain a large quantity of a black magnetic iron-sand, which, in the process of washing, from its greater gravity, sinks with the particles of gold to the bottom of the vessel or hollowed plank upon which it is submitted to the action of water. When the gold occurs in alluvial beds of clay, soil, or quartz gravel, the iron is found in a higher state of oxidation, imparting various shades of yellow, red, and brown, to the decomposing quartz and felspar constituting the matrix of the gold.

With reference to the theory of the agency of heat, evolved from basaltic dykes, in stimulating the mysterious influence, electric or otherwise, causing the development of metals and metallic ores in rocks, it is an interesting fact, that the richest gold mines in the

eastern hemisphere all occur in primary formations, situated generally along the edges of the great volcanic belt of the Indian Archipelago. The matrix of gold on the Malayan Peninsula, and in the vast islands of Borneo and Sumatra, is usually quartz veins, and beds in primary formations; and in alluvial soils, clay beds, and sands, the result of their disintegration. The mines are, for the most part, in these alluvial beds; but where the metal can be traced up to the matrix, the laborious process of breaking up the quartz beds, and separating the gold by a lengthy operation of pounding and sifting, is found in the end far more profitable than the washing alluvial clays and sands. The gold mines of Taon and Gominchi, on the Malayan Peninsula, are in a bed of solid white quartz, of extreme hardness. I possessed two specimens of this rock, containing thin veins of gold and disseminated particles, one of which is unfortunately lost; the other is deposited in the Museum of the Asiatic Society of Bengal. The gold at the foot of Mount Ophir is obtained from washing the alluvial soil and sand in the beds of streams. The rich mines of Sambas on the island of Borneo are excavated in a bed of ferruginous quartz; and the mineral, we are told, is invariably associated with this gold of Sumatra. In South America, North America, and Hungary, it forms auriferous veins in the mica slate, which Humboldt informs us is extremely rich in metallic ores.

It would be an interesting, and might prove a not unprofitable research, to attempt to trace the gold found in the alluvial auriferous tracts of Southern India to its matrix; and should this idea be ever put into execution, it would be well to bear in mind that the general direction of the quartz veins and beds in the primary formations of the peninsula is about E.S.E.; nor should those localities, where they or the embedding schists come in contact with basaltic dykes or granite, be neglected, as affording doubtless the most favourable conditions for metallic development. In tracing streams, the sands of which contain particles of gold, the sand, &c. should be attentively examined as the source is approached, and the vicinity of the spot where the gold no longer appears in the bed most carefully explored.

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ART. XXIII.—*Mineral Resources of Southern India. No. 5. Manganese Mines in the Kupput-gode Range, Southern Mahratta Country.* By LIEUT. NEWBOLD, F.R.S., &c. Madras Army.

(Read June 4th, 1842.)

At the time of my visiting these hills I had not seen Dr. Wilson's remarks on the minerals sent to the museum at Bombay by Trimulrow, from whose oral account of his excursion, and what he had heard among the hills, I was induced to imagine that there might be some truth in the report of the existence of coal. Led by this hope I proceeded from the gold-washings at Doni, and crossed the southern chain of the divergence by a steep and rugged mountain-path leading down on the opposite side by a ravine, in which the Kupput Iswara temple sits enshrined, into a jungly valley. A mile or two easterly down the valley, the village of Chick Wodurti is reached; here I was shown some fragments of a yellowish and brownish ferro-siliceous stone, not unlike some varieties of jasper, or the eisenkiesel of the Germans. The excavations whence these were procured were made by order of Hyder and Tippoo, who used these stones as gun-flints. They lie in the plain at the base of a spur of the Kupput-gode range, about two miles to the S.E. of Wodurti. They are evidently fragments of a large vein, analogous to those of chert or hornstone that so frequently occur near plutonic formations.

About the same distance from Wodurti, in the opposite or Doni chain of hills, the site of the so-called "charcoal-stone" (*Kolsá ka patthar*) mines was pointed out to me. After about an hour's walk through low jungle and stony broken ground, the native guides led me to the southern flank of the chain, which we ascended by a sort of break or cross valley that intersected the general line of direction nearly at right angles. On arriving at about the centre of the chain, the rocks on either side of the defile began to assume a darker and more rugged aspect, resembling somewhat the cuboidal masses of blackened laterite on the Western Ghauts, particularly on the rocky ascent on the left side of the defile. At the base of some of the blackest masses, the guides pointed out partially obliterated excavations which the old inhabitants of the village stated to me had been made by the agents of Hyder and Tippoo. On examination, I found the rock to consist

almost entirely of an iron-black substance, tough and powdery under the hammer, and some parts when struck emitted a sulphureous odour. It contains numerous veins and nests of a shining foliated mineral, of an iron-grey colour: some of the hollows are partially filled with a white powder,—probably decomposed felspar,—and others with small stalactites and botryoidal incrustations of the iron-black mineral. All of the surrounding masses which I examined (some of them cannot contain less than twenty cubic feet) are composed of this mineral more or less blended with siliceous and argillaceous matter: but it is, according to the information of the natives, confined to this particular locality. The sequestered situation, embosomed in the midst of a mountainous chain, covered with jungle and brushwood, and at a distance from any frequented track, would have secured it, one would have imagined, from the inquisitive eye of man; and its discovery attests strongly the active and intelligent spirit of research that guided the agents of the Mohammedan Mysorean princes to a spot that appears to have escaped both the active researches of a Christie, and the laborious investigation of the official statistical reporter, Dr. Marshall. It is not in this secluded spot alone that I have traced the efforts of Hyder and Tippoo to bring to light the mineral resources of the countries conquered by their arms, but in almost every province of the peninsula that I have traversed. The diamond mines of Cuddapah, the copper mines of Nellore, the heights of the Copper Mountain near Bellary, the lead mines near Jungumrazpilly, and other parts of the Nalla Malla chain, the gold mines and corundum pits of Mysore, the gold mines of Malabar and Wynad, the flint excavations near Rayel-cherrú in the Gooty district, and those between Cuddapah and Sidhout, and iron mines in all parts,—all bear evidence of the great importance they attached to the subject, though engaged in perpetual and harassing wars. Tippoo was a great encourager of the arts; and it is said that no less than forty-five books on various sciences were compiled and translated under his personal supervision; some were even translated from the French and English. In Major Stewart's catalogue of his library, we find the *Khawds al Hajar*, (خواص الحجارة) and the *Jawáhir Namah*, (جواهر نامه) two treatises on mineralogy, and particularly on gems, metals, and substances found in mines.

It is possible that the report of a "charcoal-stone" existing here led the agents of Hyder and Tippoo into this secluded spot as well as myself; and their disappointment must have been nearly as great, as they were entirely ignorant of the nature and use of the

black-looking mineral they discovered in its stead. Having contented themselves with making a few excavations, they returned to Seringapatam, and the mines have remained neglected to the present time.

The formation of the adjacent hills is mica, hornblende, and a chloritic schist, passing, in their upper portions, into siliceous and ferruginous schists and a lateritic rock. The specimens of the mineral I carried away proved to be oxide of manganese, associated with iron ore. I was unable to detect the existence of plumbago by exposure to a deflagrating heat with nitrate of potash. It fuses partially at the edges before the blowpipe, *per se*, with slight gaseous extrication, leaving a shining bluish-black slag. In the yellow flame it gives out a slight sulphurous odour, and the slag is affected by the magnet. With borax on charcoal it fuses with effervescence into an amethystine glass; with carbonate of soda on platina foil, into a light bluish-green glass. When powdered and treated with muriatic acid, the extrication of the peculiar fumes of chlorine sufficiently attests the presence of manganese. Fracture, dark-gray, earthy—streak, the same—soils the fingers; exterior surface rugged—often rust-coloured.

Sir Whitelaw Ainslie (*Mat. Med.*, vol. i., p. 538) states his opinion that manganese is not common in India, and that Captain Arthur informed him that he had found it in Mysore, massive, in an indurated reddish-brown ochre, combined with oxide of iron. Since his time, however, it has been found by Colonel Cullen and Dr. Benza in the Nilgherries, in the iron ore near the lake at Ootacamund, and in the Kaití valley. Geognostic position, the quartz and ferruginous beds in hornblende rock, and sienitic granite.

Among some minerals sent by Major Burney from Ava to the Museum of the Asiatic Society of Bengal, and analysed by James Prinsep, the Secretary, we find one of the black oxide of manganese. It occurs also associated with iron ore in the Himalayas; and I have discovered it in veins in the laterite and sandstone rocks of the Southern Mahratta country, and the Nizam's territories, and in the metamorphic schists in the Ceded Districts. It is probably diffused in combination with iron ore to a considerable extent, both geographical and geological, in the rocks of India.

ART. XXIV.—*Mineral Resources of Southern India. No. 6.*  
*Lead Mines of Jungamanipenta, &c. By* LIEUT. NEWBOLD,  
 F.R.S., &c., *Madras Army.*

(Read June 4th, 1842.)

I AM not aware of the existence of other lead mines in Southern India than those of the Eastern Ghauts, which lie in an area bounded by the 14th and 17th degrees of N. lat., and the 78th and 80th of E. long. The principal excavations are situate near the village of Jungumrazpilly, between Cuddapah and Nellore, on the Coromandel coast.

*Geognostic Position.*—The lead ore runs in veins in a limestone, the age of which has not yet been satisfactorily ascertained. It is generally of different shades of grey, passing into buff, blue, and black; near the veins of ore it often becomes ferruginous, and has a brown arenaceous aspect. It is associated with sandstone, argillaceous and arenaceous slates and shales, whose age is also undetermined. These rest in unconformable stratification upon the hypogene rocks composing the base of the Eastern Ghauts.

*Mining Localities.*—Proceeding easterly from the table land of the Ceded Districts towards that part of the Ghaut range, termed "Nalla Malla" by the natives; after passing Nundealumpett, a small town situate in the Dhúr taluk, about nineteen miles easterly from the cantonment of Cuddapah,—the first indications of lead ore are remarked near Bussapúr,—a hamlet about  $1\frac{1}{2}$  koss easterly from Nundealumpett, in a knoll about 50 feet high, and about 80 yards long, by from 15 to 20 broad, which lies within 100 yards distance S.E. from the village. The base of this knoll is composed of a purplish white and green slate clay, glittering with scales of mica, having a nearly vertical laminar arrangement, and dipping E. 15 N. The sides and summit consist of a scabrous, water-worn rock, of a brown ferruginous colour, effervescing with acids, and of an earthy texture resembling that of indurated clay passing into jasper. It abounds with spherical, oval, and tubular sinuous cavities, often lined with crystals of quartz and calc spar, and sometimes filled with a reddish-brown ferro-calcareous earth. The cavities are frequently basin-shaped, resembling on a small scale the rock basins worn in riverbeds. Veins of milky quartz imbedding hydrated iron ore traverse the rock; loose blocks of which lie scattered over

the surface of the knoll,—mingled with nodules of a blackish grey, and greenish cellular chert,—the cavities of which are lined with a ferruginous dust. The rock is sometimes overlaid, and its fissures penetrated with compact kankar<sup>1</sup>, imbedding fragments of the surrounding formation. The ore,—a brilliant granular galena—is usually found near the surface in the cavities just described, associated with quartz and iron ore. I had some holes dug in the rock, and succeeded in detaching a few masses containing thin veins having a dark reddish-brown exterior: many detached nodules of ore are found loose in the cavities of the rock, appearing to have been washed there; no continuous vein could be traced. From the examination of a well near the base of the knoll,—the only section that offered itself,—I found that the limestone did not form part of a continuous formation: being probably a detached hummock, or outlier of the Jungumrazpilly beds. It is situated towards the lower or southern side of a picturesque basin-shaped valley studded with tamarind groves, near the road from Cuddapah to Nellore, leading over the Dorenál pass.

*Mines of Jungamanipenta, or Jungumrazpilly.*

From Bussapúr the Ghauts are ascended, in a N.E. direction, by a mountain path, to numerous excavations of considerable extent, scattered along a jungly belt of undulating ground that crowns a ridge running N. and S. on both sides of the road from Cuddapah to Nellore, about four miles E. by S. from the village of Jungumrazpilly. By far the greater part of the mines lie on the ridge to the S. of the road. I counted upwards of fifty, now half-choked up with rubbish and vegetation; their sites are usually marked by mounds of stones and refuse vein stuff. In depth they vary from a few feet to an unascertained extent. Several, after descending by a vertical shaft for twenty or thirty feet, branch off into horizontal or inclined galleries: others have a gradual slope from the surface, offering convenient dens and lurking-places to the leopard, the *turrus* or *kurna*, the hyena, and other beasts of prey, whose tracks and excrement are seen around. I descended a considerable distance into one of these excavations; it was about five feet high, by as many in breadth; the roof and floor were covered with saline incrustations, mixed with mud, inclosing larvæ of insects, &c., and a coat of a greyish mould, the result partly of subterraneous damps. On the floor lay blocks and masses of excavated rock, some of which exhibited marks of blasting. After proceeding not farther

<sup>1</sup> *Kankar*, a nodule of limestone.



than thirty paces, I was compelled to return, in consequence of the respiration becoming impeded by the mephitic state of the atmosphere, bringing with me portions of lead ore, broken from a vein in the rock, and also a fragment of the latter, showing traces of the carbonate of copper.

Among the rubbish thrown out of a mine, whose site is marked by a *kuljuvi* tree, near the south extremity of the ridge, are numerous fragments of rock containing veins of galena, from 1 to  $1\frac{1}{2}$  inches thick, associated with quartz, iron ore, and disintegrating iron pyrites: spathose iron ore,—the *fer oxydé carbonaté* of the French mineralogists,—is also seen. Where veins of ore occur in the rock at a distance from the white quartz, the matrix assumes a deep reddish-brown colour, and becomes friable; but at a little distance, passes into a texture nearly as hard and close as that of jasper, with a cinnamon brown colour. It gives fire with steel; but, when reduced to a fine powder, effervesces feebly with acids. At a considerable distance from the vein it passes into the ordinary bluish-grey limestone of Cuddapah. On being struck forcibly by a hammer, it often separates in the direction of microscopic seams, the planes of which exhibit superficial dendritic appearances, which are more frequent, and better defined near the metalliferous veins.

Besides the excavations above mentioned, there are several others within the radius of five miles from this locality (at Kundéla Ború, Poleram Manú); and it is said galena is found in a hill near the Pennar, not far from Cuddapah. It is not improbable that the plumbiferous formation extends northerly towards the southern bank of the Kistna, and southerly to the Pennar.

*Character of the Ore.*—The ore is a granular or steel-grained galena; lustre glistening;—fracture uneven,—corresponding with the *Plomb sulfuré granulaire* of Haüy. It has been supposed to contain portions of antimony and silver. Ed. Solly, Esq., who has recently examined a specimen I brought from the Jungamanipenta excavations for the museum of the Society, thus reports upon it to the secretary. “The lead ore is a galena, or common sulphuret of lead, and the same may be said of this chromite of iron,—its value will depend on its freedom from earthy matters. A portion of the small sample sent me contained 15 per cent. of earthy matters, and 85 per cent. of sulphuret of lead. The latter contains 86 per cent. of lead.”

*History.*—The origin of most of these extensive excavations is lost in obscurity: it is known that they existed, and were worked under the ancient Hindu kings of Bijanagur, and, subsequently, by the Mohammedan Nawabs of Cuddapah, particularly during

the rule of Halim Khan, and subsequently by Hyder and Tippoo. The excavations that exhibit marks of blasting were, probably, worked by the Mussulmans, who employed gunpowder at a very early period in quarrying rocks. I was also informed by natives on the spot, that the mines were worked under the Hindu Zemindar of these districts, Comar Vencatapah Naidoo. The ancient records of the mining districts are said to have been destroyed by Tippoo. About thirty years ago, an officer of the Madras Engineers examined the mines, with a view to working them; but after a short exploration, all mining operations were given up as a losing speculation. It may be here remarked, that the lead districts I have just described, as well as other metalliferous formations of Southern India, have not hitherto met with a fair trial, conducted under favourable conditions, under the directions of, and with all the appliances of, European science and experience.

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ART. XXV.—*Mineral Resources of Southern India. No. 7. Corundum, Ruby, and Garnet Localities. By LIEUT. NEWBOLD, F.R.S., &c., Madras Army.*

(Read June 4th, 1842.)

*Comparative Remarks on the Geognostic Position of the Corundum in Europe and India.*—As I am not aware of any detailed account having been published regarding the geognostic position of the corundum in Peninsular India, and since the rocks with which it is associated in the particular locality which I first visited differ from those in which it has been stated to occur in Europe and Southern India, I am induced to preface this paper with the following remarks. Professor Thomson (*Outlines of Mineralogy*, vol. i., p. 213) informs us that “the corundum occurs in imbedded crystals in a rock which consists, according to Count Bournon, of indianite, and contains felspar, fibrolite, several varieties of augite, and also octohedral iron ore; the hair-brown or reddish-brown varieties are called adamantine spar. They occur with fibrolite and octohedral iron ore in a sort of granite containing no quartz.” And again (p. 256) he states, that “fibrolite is a mineral found accompanying crystals of corundum in the Carnatic, and that it is a component part of the granite, which is the matrix of the corundum of China.” Professor Jameson, in his *geognosy of Peninsular India*, (Ed. Cab. Lib., No. VIII., p. 349-50,) gives a summary of what is known regarding the corundum of Southern India, and states that it occurs embedded in granite and sienite in the district of Salem, in the Madras Presidency, among the mountains of the Carnatic, and in other parts of the Peninsula, associated with cleavelandite, indianite, and fibrolite. Now in the locality I am about to describe, it was found to occur in decomposed beds of a talcose slate, to which gneiss is subordinate, associated with nodules of indurated talc, and of a poor quartz iron ore: asbestos, chlorite, actinolite, and schorl were found embedded in the talcose slate.

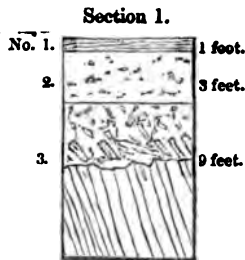
Passing last year through Gram, a village and fort in the Mysore country, about ninety-eight miles westerly from Bangalore, between it and the Western Ghauts, I was informed by the natives of the place that corundum (*Corund ka patthar*<sup>1</sup>) was found in this

<sup>1</sup> Corund کرندہ is the Hindustani term for corundum: can this be indicative of its having first been imported into Europe from India?

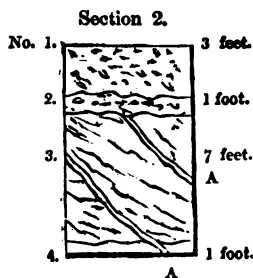
vicinity; at Golhushully, in the division of Nooghully; at Kulkairi, Burkunhulli, Kundeo, and Yedgunkul, in that of Chinrayapatam; at Norhik, in Narsipur; at Deysani Carbonhully, in Banawaram; and at Appianhully, in that of Harnhully. The localities I visited were Golhushully and Kulkairi, at which places the best corundum is said to be obtained. The mines lie about forty-five miles N. by W. from Seringapatam, and about seven or eight E. by N. from the fort of Gram. The formation around Gram is gneiss, associated with protogine. Proceeding from it in a westerly direction, the northern shoulder of the insulated range, south of the village of Belladaira, running nearly north and south, is crossed, and the soil suddenly changes from a light sandy colour to a deep red. The surface of this swell is covered with fragments of a ferro-siliceous schist, with quartz in alternate layers. This mountain-range, as night was coming on, I was not able to examine; but from its singularly-sharp outline, the elevation and shape of its highest peak, and its direction conformable with that of the primary schist, I should say it was, probably, a large ferruginous quartzose bed, in the gneiss associated with quartz iron ore, fragments of which are seen at its base. The natives have a tradition that gold was formerly got from this hill, which is not at all improbable, as it is found in a similar gangue near Baitmungalum, sixty-one and a half miles E. from Bangalore, and at Malliyalum, near the S.W. border of Mysore in Coimbatore. Minute grains occur in the sandy bed of a brook here.

A little farther west, where the talus of the mountain subsides into the plain, the gneiss re-appears, alternating with talc slate in nearly vertical strata. The dip, as observed in an adjoining nala between the mountain and the village of Belladaira, is to the E. by N., and the direction of the strata N.  $22^{\circ}$  E. The corundum mines of Golhushully lie four or five miles N.E. of this place, and those of Kulkairi about a mile farther. The surrounding country is a succession of smooth slightly convex plains, except to the S.E., where the gneiss rises above the soil in a rocky ridge, terminating in a knoll about 700 yards to the E. by S. of the mines to which it descends, rising again into a slope to W.N.W. of the mines, on which lie fragments of a light brown compact quartz iron ore. Nearly at the bottom of this slope are the mines, from which the ground descends on both sides to the N.W. to a tank, and towards the S.E. to the village of Golhushully, about a mile distant. Between the mines and this village, near the bottom of the ascent on which they

are situated, runs a nala, the bed of which gives a tolerable section of the strata resting on the gneiss.



The first (No. 1.), commencing from the surface is a thin sandy alluvial soil; next (No. 2.) succeeds a dark brown gritty soil, apparently decomposed ferruginous quartz, but sometimes sandy, from two to three feet thick. Below this we see the detritus (No. 3.) of the subjacent gneiss; the quartz veins of which, remaining undecomposed, are observed penetrating into the substance of the soil from below. Some of the veins are broken by the superincumbent weight, aided by their own approach to decomposition. The quartz and felspar veins contain nests of a disintegrating blackish mica. The direction of the beds of gneiss is S.  $10^{\circ}$  E. with a dip of  $60^{\circ}$  a little to the N. of E. The surface of the ascent from Golhushully to the mines, except where the blocks of the brown ore above described, and a few edges of talc slate crop out, is covered with the dark brown soil, (No. 1. Section 2,) containing small particles of iron ore, and the broken-up veins of the subjacent rock to the depth of



about three feet: below this lies a bed, (No. 2.) varying from one to two feet in thickness, of chert, angular and rounded fragments of a poor quartzy iron ore, nodules of a whitish, highly indurated talc, talcose

quartz, and felspar. A variety of schorl occurs imbedded in an indurated brownish talc, generally in three-sided prisms: it fuses into a lighter coloured enamel than the European specimen in my cabinet. This schorl has a shining lustre; fracture uneven; breaks easily across the axis of its prisms; opaque, streak grey, scratches glass and quartz, the latter with difficulty. In this bed the best kinds of corundum are found. Below this is a bed (No. 3.) of greenish earth, evidently of decomposed talcose slate: it is slightly greasy to touch, and falls to pieces with a hissing noise when put into water. Before the blowpipe in the platinum forceps it melts partially into a brownish slag, covered with minute globules of a white enamel, streak slightly coherent, shining, approaching earthy; adheres slightly to the tongue, and emits an argillaceous odour when breathed on. It is traversed by veins (AA) of a compact talc in laminæ which in some places bear traces of dislocation. The red earth and a quartz ferruginous paste in small reniform and pisiform nodules, resembling those of hæmatite, are found intermixed with the more decayed portions of the schist. Beds (No. 4) and veins of white earth are also found in it, occupying the bottom of some of the excavations, as at Kulkairi. These are composed of talc, quartz, and minute particles of the corundum of which the vein is the gangue; streak and fracture earthy; feels gritty, and slightly greasy; adheres slightly to the tongue; does not emit so strong an argillaceous odour as the green earth; falls to pieces when put into water with a hissing noise. Before the blowpipe, fuses partially and with difficulty into a whitish enamel. The corundum is imbedded both in this earth and that arising from the decomposed talcose schist; the whiter fragments occur sometimes as hexagonal prisms tapering off to the extremity. The locality can be easily distinguished by the external appearance of the crystals, those found embedded with the iron ore having a ferruginous covering, whilst those found in the white talcose earth present a white or greyish appearance. Microscopic particles of corundum occur disseminated in this earth, more numerous in some parts than others, as if converging to certain central foci of molecular aggregation. In fact, the whole of the component parts of the surrounding talcose slate appear to be separating from their combined state, and about to enter into some new form. Disintegration in the interior of certain rocks, whether from heat, cold, moisture, electricity, or other cause, seems to be, in some cases, a preparatory stage in Nature's mystic laboratory to matter assuming new forms; and under certain relative conditions we find the same agents that caused their decomposition, actively operating in their re-aggregation. Heat and

electricity are powerful dispersive and aggregative agents. For familiar illustration, I need scarcely point to the flame produced by the blowpipe reducing at one point a metal to dust, and at another restoring the dust to its metallic state. By the judicious application of heat nearly solid particles can be made to move through and converge in the centre of a nearly solid mass, as exemplified by the experiment of Breislak, who succeeded in forming a nucleus of a variegated copper in the centre of a mass of pure copper pyrites, by subjecting it to a heat below that of fusion. Decomposition, however, is not an absolutely necessary condition for the production of adamantine spar, as I have seen it in canular nests in gneiss but little disintegrated.

The talc schist is sometimes hardened and consolidated by contact with the iron ore, as seen in blocks thrown out of a mine near the foot of the ascent. Both the chert and a dark red ferruginous jasper are used by the natives as flints. Salt springs occur in the vicinity. The wells about Gram were, I am told, both sweet and brackish within a short distance; and I picked up a fragment of rock-salt in the green earth of the mine. This is to be accounted for by the nearly vertical position of the strata between which they find their way towards the surface. A little to the east of Kulkairi I crossed a low plain nearly covered with a white travertine, partly compact, partly cellular, resembling that found in the bed of the Cavery at Seringapatam.

*Mines of Kulkairi.*—The corundum mines at Kulkairi are situated both near the summit, and at the foot of the rising ground there. They are a series of excavations, varying from two to twelve feet in depth, sunk perpendicularly through similar strata to those just described. The corundum is thrown out, cleared, and separated by the miners into four classes, viz., the red, the white, the scraps of both, and the refuse. The three first form the article of commerce, which is carried to Mangalore and Tellicherry; and, according to my native informants, there sold by the contractor to the Bombay and Arab merchants, at prices from twelve and fifteen to thirty rupees the candy, according to its quality. A very large quantity (2000 bags) is now (January, 1837,) lying at Tellicherry unsold, owing to a disagreement about the price between the contractor and the merchant. The present contractor for corundum in Mysore is a Lingayet, named Bussetti, an inhabitant of Bowenhulli, in the taluk of Arculgode; his contract has almost expired, and, in consequence, no miners are at work. He took the mines for two years, for which he was to pay the sum of 530 Canteray pagodas. The former contractors paid 500 for two, or

250 for one year, consequently it may be supposed that the produce has risen in value. These mines were only opened about seven or eight years ago by a native, named Hari Ram. I need scarcely add, the corundum is used by natives, pounded as emery, to polish precious and other stones, particularly granite and basalt. It is also mixed for this, and other purposes, with melted lac, in fine and coarse powders, as we use a mixture of glue and sand. It is said to be found at Mundium in Mysore, at Gudjelhutty in Coimbatore, at the Topoor Ghat in Salem, at Chennimully in Coimbatore, and in Cuttack.

At Namaul and at Viralimodos, on the north bank of the Cauvery, in the Permutty taluk, Salem district, it occurs embedded in gneiss, and a greyish earth, resulting in part from the disintegration of that rock. It is found in this vicinity in great abundance, in a low hill near the village of Sholasigámany, Trichingode taluk; Caránel, Anpore, Mallapollaye, and at various localities up the river Cavery, as far as Cocarambadi, where it is dug for by the natives in the fields; and there are the remains of many ancient excavations still to be traced.

The corundum was formerly sent as an article of traffic to Palghatsherry, and thence to the western coast, and various other parts of India. It can still be procured at the rate of from fifteen to thirty measures the rupee, each measure weighing fifty-seven ounces, avoirdupois. The caste usually employed in collecting it is the Vittaver.

*Ruby Localities.*—Fine rubies have, from time to time, been discovered in many of the corundum localities just enumerated, associated with this gem, particularly in the gneiss at Viralimodos and Sholasigámany. The natives inform me that it occurs also in the Trichingode taluk and at Mallapollaye, but it is rare, comparatively speaking.

*Garnet.*—This gem, the red variety, is very generally diffused over India. Its geognostic position, the hypogene or metamorphic schists, more particularly near their line of junction with the plutonic rocks, or trap dykes; for instance, in the crystalline and metalliferous areas of Salem and Nellore, already described, whence the finest crystals are procured, and sold by the native merchants at an insignificant price. Colophonite is not uncommon in these tracts, as also in Mysore, the Nilgherris, the Carnatic, and other provinces of Southern India. It usually occurs in the granite, associated with the hypogene schists. That beautiful variety of dodecahedral garnet, called cinnamon-stone or essonite, has been



discovered in the Nilgherris, in the hypogene hornblende rock, near the Seven Cairns Hill, by Dr. Benza, where their number is such, he informs us, that entire portions of the rock are formed almost exclusively of them. The essonite and hornblende are in large separate crystals, imbedded in a paste of compact felspar and hornblende; the former is very liable to disintegrate, leaving, in falling out, small cavities in the rock.

Green garnet is of rare occurrence: the only locality where I discovered this gem was in the Salem district at Sankerydroog, lat.  $11^{\circ} 29' N.$ , long.  $77^{\circ} 58' E.$ , associated with other green crystals in quartz veins, penetrating hornblende schist. The latter is associated with gneiss, garnet rock, actinolitic schist, and altered limestone, thrown into disorder by the intrusion of a porphyritic granite. The green garnet is not found in considerable quantities.

A mine of precious garnet occurs at Gharilpit, about eight miles south of Palunshah, in the Hyderabad country, in the detritus of a granitic rock, penetrated by trap dykes, and composed of mica, garnets, kyanite, quartz, and felspar. Dr. Voysey, who gives a description of this mine<sup>1</sup>, states that the precious garnets are found at the depth of eight or ten feet in the alluvium at the foot of the rock. The surface of the rock and soil were strewed with garnets in great profusion, but these were generally of a very coarse kind. The garnets when collected are gently pounded, and the bad ones broken: those which survive the blows are reckoned of good quality.

<sup>1</sup> Asiatic Journal of Bengal, vol. ii., p. 404.

ART. XXVI.—*Mineral Resources of Southern India. No. 8.*  
*Diamond Tracts. By* LIEUT. NEWBOLD, F.R.S., &c., *Madras*  
*Army.*

(Read June 18th, 1842.)

THE diamond tracts of India lie between 13° and 25° N. lat.; they occur in irregular arid patches, sometimes basin-shaped, in hilly districts on the great elevated plains bordering the more considerable rivers that have an easterly and southerly course to the Bay of Bengal. Diamonds of considerable size are not rarely found in the sands of these streams and of their tributaries; but their geognostic situs must be referred to the sandstone and sandstone conglomerate, which will be described at more length in the detailed accounts I am about to offer of the various localities in which this gem occurs, commencing with those of the Ceded Districts on the southern limit of the great diamond area just mentioned.

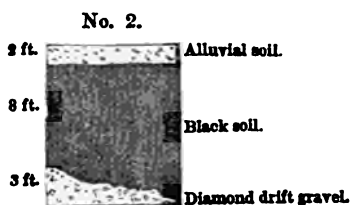
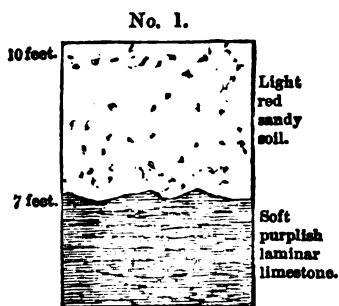
*Diamond Mines of the Ceded Districts.*

! The Ceded Districts originally formed part of the empire of Golconda, the capital of which is situated about 140 miles north from their present frontier. This tract included within its limits many of the diamond mines, for which Golconda has been celebrated over the whole habitable world. The localities in which they were principally dug were Ovalumpully; Condapetta, in the Chinoor-taluk, on the banks of the Pennar, about six miles from Cuddapah; at Lamdoor and Punchatgopadoo; at Banganapilly, on the Kurnool frontier; at Ramulacota and other places in Kurnool; and at Muni-mudgoo, north of Gooty. The mines of Condapetta I visited from Cuddapah, only a few miles north of which the Pennar runs. Crossing the river at Chinoor, which was then nearly dry, (February,) and the sandy bed occupied by verdant melon gardens, I passed on to the little village of Condapetta, where a guide was procured. We traversed a plain, partially cultivated, extending between the foot of the Nalla Malla hills and the river: the chain here has an easterly direction, running nearly parallel with the left bank of the river; it is of sandstone, passing into arenaceous and argillaceous slates. The hills do not anywhere in this vicinity rise more than 1000 feet above the level of the plain, which is here about 507 feet above the level of the sea. The tract between the

base of the hills and the Pennar is, apparently, about two miles across, and the diamond mines are situated in it nearly three quarters of a mile from the former. The surface of the soil is strewn with both rounded and angular quartz and sandstone pebbles. Heaps of these rolled stones and gravel announce the vicinity of the excavations.

On approaching the mines, I was accosted by a Brahman and several of his attendants, who earnestly requested that I would leave my horse behind, as his presence might interfere materially with the success of some mystic rites, which they were then in the act of performing, for the propitiation of the tutelary genius that watched over the treasures of the earth, preparatory to opening some new excavations. (A similar superstition prevails also among Malayan miners, to whose prejudices I was, on a former occasion, compelled to pay deference, by dismounting and walking some distance through a muddy jungle, on a visit to the tin mines in the interior of the Malayan peninsula.) On a nearer approach, I observed some undug ground already marked out as the scene of future operations. The implements of the sacrifice were also prepared: two stout iron divining rods were firmly planted in a vertical position, at a little distance apart, in small recently dug square apertures in the ground, in which were deposited stones, smeared with red and yellow paint, placed upright. The smoke of the incense-pots thickened and perfumed the air. The Brahman had been for some time past consulting his books and making astrological calculations, watching the aspect of the planets for a propitious day and moment for the opening of the mines: this had been fixed on as the auspicious time. The sacrifices were made to Lakshmi, the goddess of fortune. Near the spot marked out for the new excavations lay the old pits, which are extremely numerous, covering an apparent extent of more than a square mile, surrounded by heaps of stones and gravel. They are generally of a square form, and from four to twelve feet deep. The stratum cut through is of cotton soil, mixed with small grains of quartz, generally from three to ten feet thick, which rests immediately on a bed of rolled stones of various sizes, from that of a paving-stone to a nut, in which the diamonds are found generally loose, but sometimes adherent. The stones are mingled with mud and gravel. The pebbles most commonly met with are ferruginous, gritty, and schistose sandstone; sandstone conglomerates, imbedding rolled pebbles of quartz, chert, and jasper; claystone porphyry, with crystals of felspar; blue jasper veined with oxide of iron; coarse red jasper; and quartz

crystals. Some of these pebbles have evidently been transported from the adjacent hills, but the porphyritic and felspathic pebbles must have travelled a much greater distance. Near the base of the hills the cotton soil is covered with the red gritty earth, arising from the disintegration of the sandstone rock. Nearer the river it becomes thinner, and is replaced by the light sandy soil drifted by the wind and monsoon freshes. Below these soils a purplish laminar limestone extends nearly to the base of the hills; and it is not improbable the diamond alluvium rests upon it. This purplish limestone overlies the blue compact variety. No. 1 is a section of the plain between the diamond mines and the river. No. 2 is a section afforded by one of the old diamond excavations.



The process of mining consists merely in digging out the rolled pebbles and gravel, and carrying them to small square reservoirs, raised on mounds, having their bottom paved with stones, and washing them carefully. At the foot of the mound is a clear space, surrounded by heaps of refuse, where the washed gravel is again carefully spread out and examined in presence of the diamond contractors; the diamonds are easily recognised in this moist state, by their peculiar lustre. These mines are let out by the government to native contractors, who gave me the following information on the spot:—In 1834 the mines proved profitable, but in the following year the miners lost a considerable sum. The sum paid to government by them for the privilege of mining a piece of ground 100 yards long by 50 broad, for four months, is 200 rupees<sup>1</sup>. Dry weather is selected to carry on operations, to avoid the inconvenience and expense of draining. In former days all the diamonds

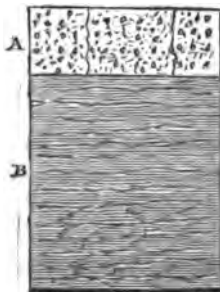
<sup>1</sup> In 1840 the contract rose to about 250 rupees. When a diamond of more than a gold pagoda in weight (=52·56 gra. at Madras) is found, it is sold by public auction, and one-third of the proceeds goes to government, the remainder to the mining contractor.

produced were carried for sale to Golconda. In those times very large diamonds were found; but, subsequent to British ascendancy—which, according to the superstitious natives, is by no means pleasing to the tutelary deities of the mines—few of any value have been found, probably in consequence of their being less looked after. However, lately, in 1839, a fine diamond, of the Kshatriya or roseate caste, was dug from the Ovalumpully mine, exceeding a gold pagoda in weight, which was sold for 1450 rupees.

*Diamond Mines of Banganapilly.*

The diamond mines of Banganapilly are situated in a low range of hills, scarcely attaining 150 feet in height, about half a mile west from the fort, and of circumscribed extent. These hills are composed of a highly crystalline and ferruginous sandstone, interstratified with beds of a conglomerate, consisting of quartz, chert, and jasper pebbles: I did not observe any of basalt, the plutonic, or hypogene rocks. The beds are nearly horizontal, with a slight easterly dip. The rock, at the base of the hills, on which the conglomerate rests conformably, is the blue limestone, covered with regar or black cotton soil. The flat surface of the hills and sides near the summit have been completely broken up by the miners. The excavations are generally made through the sandstone, until one of the beds of conglomerate is reached, when they branch off for a short distance horizontally. The broken-up fragments of rock are removed, washed, and examined, as near Cuddapah. The diamonds shown me on the spot were small, and but imperfectly crystallized, both of the yellow and bluish varieties; they are cut into flat

No. 3.



A Diamond conglomerate.  
B Dark-blue limestone.

As the greater proportion of pebbles in A are rounded, I have given it the name of conglomerate, rather than that of a breccia, which has been assigned to it.

planes, and set by artificers in the town. The mines, they say, were formerly productive, but have been latterly much neglected, owing to the profits hardly balancing the expenses. The Bānganapilly mines do not belong to the Company—they are in possession of the Moham-medan Jaghirdar. The miners content themselves with searching the old mines, rarely venturing to the expense of fresh excavations.

#### *Diamond Excavations of Munimudgoo.*

The old diamond mines of Munimudgoo, a decayed fort and town situated among the hills about two koss off the main road, southerly from Puspulah, the last village in the Banaganpully jaghire, were found with some difficulty about a koss distant from the fort, on the left of the bullock road thence to Garuldinny. They had been dug on the inner side of a basin, formed by low hills of sandstone and conglomerate rising from the table land ascended from Puspulah, and some of them covered with a thick layer of black cotton soil. Limestone is interstratified with the sandstone at the base of the hills, and whole hills of it occur in the vicinity. The excavations were nearly choked up by bushes, having been deserted for upwards of thirty years. Conglomerates similar to those of Cuddapah and Banganapilly, fragments of sandstone and schist, were seen lying in the heaps of rubbish around the pits; there was not the slightest appearance of their having been lately resifted or turned over. The elaborately-built wells—now deserted—in the vicinity, and the former importance and wealth of the town of Munimudgoo, bear silent testimony to a state of former prosperity, probably resulting from the produce of the mines. The few remaining diamond cutters and polishers of Golconda are still to be found at this place. I obtained from them a model of their lapidaries' wheel, which has been presented to the Branch Society of Madras.

The ride to this place from Puspulah is remarkably interesting to the admirer of nature. The road, sufficiently rugged, lies at first through a wooded ravine, gradually ascending and winding among picturesque hills to an undulating table land, from which there is a delightful bird's-eye view of the surrounding country. The inferior hills were all flat-topped, indicating a similar formation to the table land of the hill just ascended, viz., sandstone, resting in nearly horizontal strata on a reddish and arenaceous slate, having a slight dip towards the east, and some of them capped with a stratum of rich régar. Underneath the flat sandstone summits of the hills the arenaceous slate generally rises in low ridgy cliffs, supporting the superincumbent plateau. The sandstone is both of the gritty and

compact variety, and exhibits internal bands, evidently the result of successive aqueous depositions. Near the descent I observed angular blocks of a black crystalline trap, apparently the outgoings of a dyke, running parallel to the direction of the hills E. and W., but the thickness of the jungle precluded further investigation.'

*Diamond Mines of Ramulacota.*

These mines are situate in the Kurnool territory, about twenty-one miles S. of its capital, in the lower part of a basin-shaped plain, almost surrounded by low ranges of sandstone grit and conglomerate, resting in nearly horizontal stratification on the blue limestone of Cuddapah. The granite rocks bound this plain on the west, though at a considerable distance.

The present excavations occupy but a circumscribed portion of this extensive area—about one thousand square yards—and are dug, for the most part, in the detrital soil at the base of the rocks. Remains of old and extensive mines appear in a low adjacent ridge, composed of a dark ferruginous grit and conglomerate, and the rock has evidently been blasted. Diamonds of a very fine quality are said to exist in this conglomerate, but as they are few, and the labour and expense of blasting the rock great, the latter has been forsaken for the more easily-worked detritus, where the diamonds, though of inferior quality, are more numerous and attainable. The pits, though not occupying so large a superficies, are deeper and far more extensive than those near Cuddapah; the old excavations in the rocks resemble those of Banganapilly and Munimudgoo. The diamonds that were shown me here, one in the parent rock—the conglomerate, were of an inferior size, and but few crystallized in the octohedral form. They had, severally, white, grey, yellow, and greenish tints; but it was told me that those found in the conglomerate rock are generally of a superior description, with a fine roseate tinge. They are cut and polished by the jewellers of Munimudgoo, who have long been famous for their skill as lapidaries; they were formerly sent for sale to Golconda, and, subsequent to its fall, to Hyderabad. The process of mining and washing resembles what has been already described in speaking of the Cuddapah mines. There were about twenty natives engaged in these processes at the time of my visit. In the dry season 500 are usually at work: during the wet season, operations are suspended, from the pits becoming filled with water. The mines are rented (1839) by three contractors from the Nawab of Kurnool, for about 750 rupees per annum, who let them out in small lots to various minor speculators.

The usual hire of a labourer on the spot is four pice and a meal of rice per diem. The opening of a new mine presents an animated scene, which the late Nawab occasionally honoured by his presence. The difficulty of keeping the excavations clear of water is considerable to natives, in consequence of the basin-like superficies of the surrounding plain.

The nature of the conglomerate and sandstone identified them with the Banganapilly rocks. They imbed specular and magnetic iron ore in considerable quantity.

The alluvial beds overlying the diamond gravel bed are first a layer of reddish soil, succeeded by another of greyish-black soil, slightly calcareous, and traversed horizontally by bands stained with oxide of iron, having an aggregate thickness of from sixteen to twenty feet. The pebbles composing the gravel bed, which is from five to ten feet thick, are similar to those near Cuddapah, with a few scattered pebbles of basaltic greenstone: kankar is sparingly intermixed. Beneath the gravel is a red sandy stratum, below which the diamond is rarely found. There are old diamond excavations at Sartancota, Desnoor, and Tandrapand, all in the Kurnool territory.

#### *Diamond Tracts near the Kistna River.*

Other lines a little north of the present boundary of the Ceded Districts, though within the limits of Golconda, are found on the banks of the Kistna, in the vicinity of Condapilly. Voysey states them to occur in a plain formed by the alluvium of the river, bounded by granite, and that the nearest hills to them, two miles off, consist of a mixture of quartz, felspar, hornblende, and mica. He goes on to say, however, that he was not able to find in the rubbish of the mines any substrata resembling them; and we may fairly conclude the diamond alluvium of the Kistna to be brought down from the hills of limestone and sandstone through which the river has recently passed. And indeed Voysey himself remarks, that the only stone common to all the mines he has visited is the conglomerate. The mine of Malavali, twenty miles S.E. of Purtyal, is said to lie on granite, and to be surrounded by that rock. The sandstone conglomerate, however, is the rock with which the diamonds are here immediately associated, as well as at Pulichinta, where one of the mines is situated on or near limestone. This mine and that of Malavali are the only ones in which diamonds are now sought for. No fresh excavations have been made for many years: the miners employ themselves in turning over, again and again, the



old refuse. The old mines of Antior, Barthemi, and Pandoa, are all deserted. In the Malavali alluvium, sandstone conglomerate, chert, jasper, iron ore, quartz, felspar, and kankar are found<sup>1</sup>.

*Diamond Districts of the Mahanadi River.*

Diamonds of considerable value are also found in the bed and alluvium of the Mahanadi river, especially at Sambhalpúr, and about the mouths of the Hebe, Khelú, and Maund streams; but their beds have not hitherto, I believe, been traced. They also occur at Badrachellum, in the bed of the Godavery.

*Diamond Mines of Bundelkhand.*

The mines next in celebrity to those of Golconda are those of Pannah in Bundelkhand. They occur in a table land covered by a reddish soil, which lies over a bed of rolled pebbles of the sandstone formation in which the diamonds are found. The excavations rarely exceed fifteen feet in depth; they are still worked, it is said, with considerable profit. In the reign of Akbar they are said to have been estimated at eight lacs of rupees annually.

*Remarks on the Origin of the Diamond.*

With regard to the origin of the diamond, many speculations have been indulged. Sir Isaac Newton conjectured that it was probably an unctuous substance coagulated. Captain Franklin, adopting the theory of Sir James Hall on the consolidation of strata by heat, was of opinion that the crystal was produced in the grit-stone by the action of heat and slow cooling, the carbonic acid being detained by compression under the weight of the strata or a superincumbent ocean. He adduces no proof, however, of the strata in which the diamond is found having been subjected to the influence of heat, beyond the conjecture of a bed of coal lying 400 feet below the diamond bed. Sir D. Brewster, who first attributed its origin, like that of amber, to the consolidation of vegetable matter, and was of opinion that it gradually acquired its crystalline form by the influence of time and the slow action of corpuscular forces, and denied that the compressible state of the diamond, as evinced by the air it contains, could arise from the action of heat, as manifest from the nature and recent formation of the soil in which it is found, has subsequently stated that the discovery of a new matrix of the diamond takes away the foundation of the argument from which he concluded that the compressible state of the gem could

<sup>1</sup> Benza's Notes, Madras Journal Lit. and Science for Jan., 1837, pp. 48-9.

not arise from heat; for it is possible, he says, that the rocky matrix in which it was found (the sandstone) had an igneous origin. Captain Franklin, on whose statement Sir D. Brewster rests his argument, mentions a conjecture, as before mentioned, of there being a bed of coal underlying the 400 feet of sandstone on the surface of which the diamonds are found; but even admitting this, there are no veins of coal hitherto discovered in India that would affect 400 feet of a solid rock with the degree of heat supposed. But neither in the mines of Golconda nor in those of Brazil do we trace the slightest fragment of coal, although we admit the possibility of its existence in the vicinity. The diamond alluvium of Brazil consists of pebbles, a ferruginous sandstone, and sandstone conglomerate, associated with iron ore, and resting on chlorite or clay-slate; as also that of Borneo.

It is now a generally-admitted fact, I believe, that, from the permanent contact of rocks of a different nature, not only a displacement and new arrangement of their elements may be occasioned, but even minerals formed, the elements of which were not suspected to exist previously in either of the rocks. This influence, though heightened by, is also found to be independent of, heat and light. Garnets, analcime, epidote, tourmaline, are produced in veins in gneiss near its junction with granite; and tremolite, garnets, and pyrites, in lias where it meets with the latter rock. Metalliferous veins and nests occur in greatest abundance whenever granite comes in contact with the secondary rocks. The diamond, as has been already demonstrated, is invariably found associated with a sandstone conglomerate, or sandstone, often at or near its junction with limestone, and in the vicinity of granite elevations or greenstone dykes. These rocks are not always apparent, but their vicinity and influence are surely indicated by the presence of the conglomerate, which has been formed by the breaking up of the calcareous and arenaceous strata at the time of the soulèvement—a fact proved by the nature of the pebbles imbedded, which are generally of the chert, flint, and jasper, into which limestone and sandstone are seen to pass when they come in contact with the granite boundary or with greenstone dykes. The carbon—the element of which the diamond consists—is not only found in the carbonic acid combined with the limestone, but exists in the dark varieties in a dark carbonaceous matter, which, together with iron, imparts the colouring matter to the rock, and also in the coal-veins which may exist in the vicinity; it is also present in the black soil we often see as a superstratum covering the diamond alluvium. The secretion or concretion of the carbon, in

its pure crystalline state, appears, in those instances where it has not been accelerated by heat, to bear analogy to the process by which we see pure silica (tabáshir) secreted at first as a soft gelatinous mass, in the tender joints of the bamboo. The formation of diastase, of which we cannot discern the slightest trace in the germ, and tuber itself, round the eye of the potato, is still more difficult to be accounted for. I have witnessed a sort of catalysis in the talc slate of India, by which its constituents are separated and undergo a disintegration into a soft earth, in which minute adamantine particles have been found converging into crystallized nuclei of corundum. It is fully proved, I think, from the experiments of Sir David Brewster, that the diamond has once been in a soft state like amber, opal, or the tabashir just alluded to. Minute cavities, surrounded by a compressed structure, analogous to those in the Laske diamond, are seen in several specimens of the Indian gem that have been brought me by the diamond merchants.

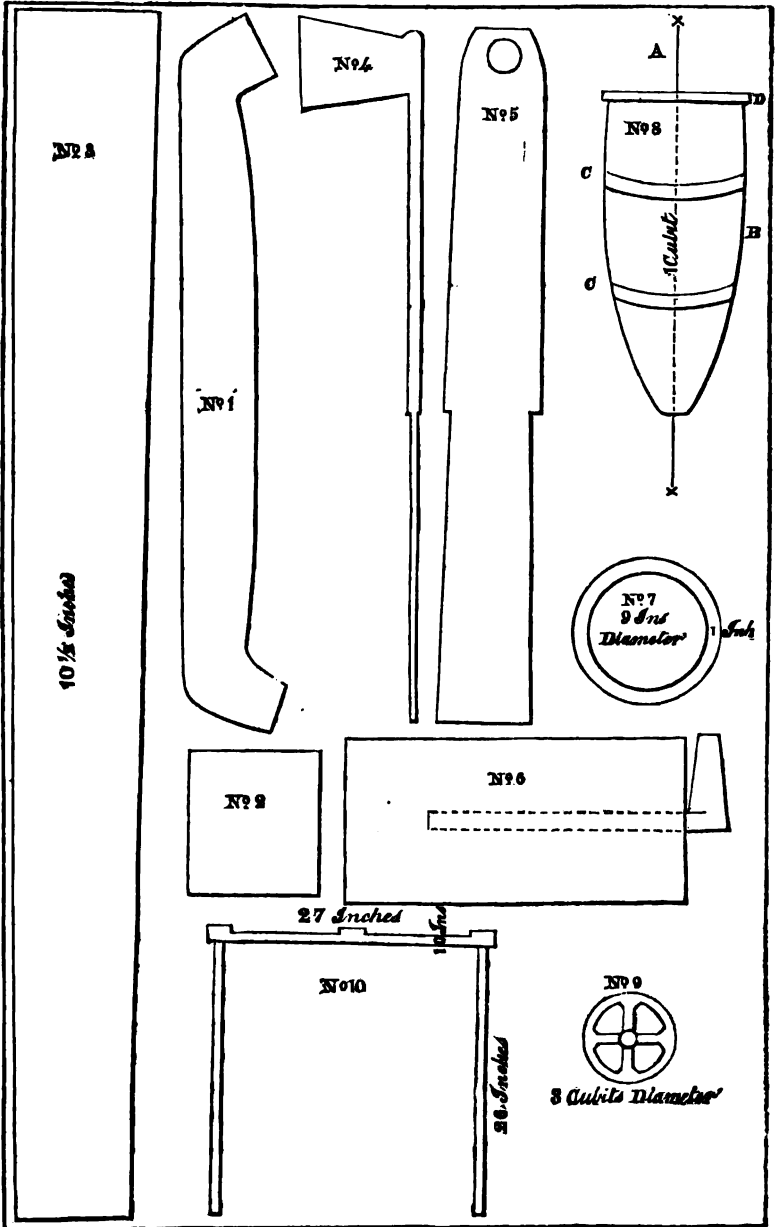
In corroboration of what has been just conjectured regarding the possibility of the concretion of the diamond without the stimulus of heat, I may state, that there is a universal opinion of the continual reproduction of this gem among the most experienced Indian miners from Bundelkhand to Cuddapah, which I was at first inclined to place little reliance upon, but which I have been subsequently inclined to listen to; not only from finding, by experience, almost all their ideas on similar subjects, however startling at first sight, to be based on truth, but from actually witnessing diamonds extracted in tolerable abundance from old mines which had long been given up and neglected as worn out. At Banganapilly and Muddenpilly the miners content themselves with examining the old mines, rarely making fresh excavations. The inferior size of the diamonds found at the present day may perhaps be accounted for, in part, by the over-cupidity of the natives, which will not permit the old mines to remain undisturbed for any considerable length of time. The old miners stated to me, that a term of fifteen or twenty years was requisite for the reproduction of the gem. The ideas of the natives will not appear so strange when we see zeolites, tabashir, crystals of lime, quartz, felspar, and corundum, now in process of formation, and when we reflect that there is no obvious reason why the causes—excepting the supposed heat evolved by newly-raised plutonian rocks—that originally existed for the production of the diamond, should now be at an end, and no longer continue to operate in nature.

As previously stated, diamonds of great value are seldom discovered in India; the largest, lately procured at Pannah, was

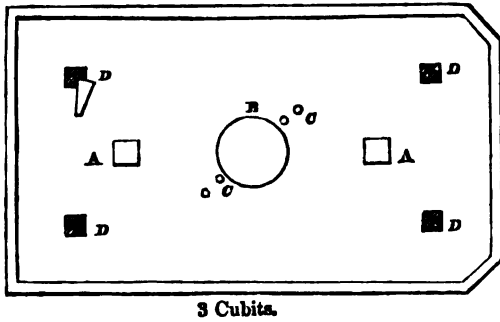
valued at 400*l.* sterling. Fine diamonds still continue to be got in the vast island of Borneo. The Sultan of Mattan, on this island, is said to possess the largest diamond now existing in the world, with the exception of that mentioned by Tavernier of 900 carats, now no longer to be found; it weighs 367 carats, and is shaped like an egg, with an indented hollow at one end. The mines of Landak, in Borneo, are said to produce at present about 1900 carats per annum. The celebrated Pitt, or Regent, diamond has been erroneously stated to have been found at Malacca. During a residence of three years at that place, I made several inquiries on the subject from the Malay and Chinese miners, and also from the old Dutch and Portuguese inhabitants; but they all affirmed that diamonds never have been discovered there at all, and that the diamond in question, which is considered the most perfect of any that has hitherto been discovered, was sold to Mr. Pitt, of Bencoolen, in Sumatra, by a merchant from Borneo. It was sold by him to the Duke of Orleans for 130,000*l.*, and placed among the crown jewels of France. Its value is said to be half a million sterling. The statement of the Malays, of Malacca not producing diamonds, is borne out by the nature of the formation in its vicinity, which is a stanniferous granite overlaid by laterite. \*

It has been said that the ancients were ignorant of the art of cutting diamonds, and were accustomed to use them rough, as found in the mine. Hatty affirms, that it was not until A.D. 1456 that the art of polishing these gems, by rubbing one against another, was discovered by a citizen of Bruges, named Louis Berquen. This artist is also said to have invented the lapidaries' wheel, to the circumference of which, by applying diamond powder with grease, he was enabled not only to polish the diamond, but to cut it into facets. The Egyptians, however, according to Sir Gardner Wilkinson, lay early claim to the discovery of the lapidaries' wheel: and the diamond polishers of India aver, that the wheel about to be described was in use among them long prior to the Mohammedan invasion.

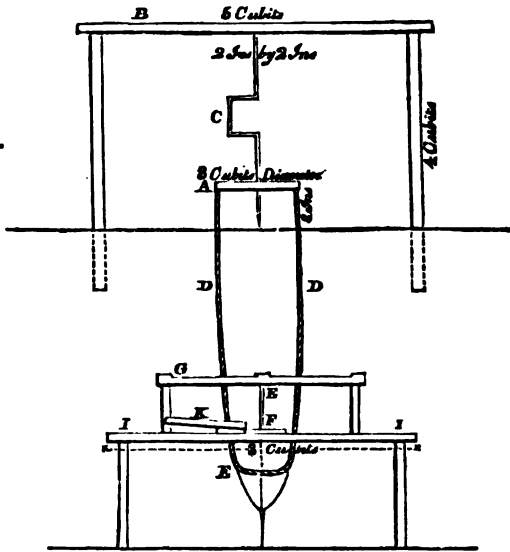
The following is a description of the apparatus which has been used, time out of mind, by the diamond polishers of Munimudgoo, a place where most of the diamonds found in the Pennar district were polished, and sent to Golconda for sale. No. 1 is a piece of wood six inches long, in the ends of which a fine diamond point is cemented by melted lac, to mark the rough diamond before it is cut into plates for polishing. No. 2 is a thin bit of highly tempered steel, with which the diamond is split after having been



No. 11.  
27 Inches.



No. 12.



marked by No. 1. No. 3 is a mallet of heavy wood with which No. 2 is forcibly struck upon the diamond. No. 4 is a small iron anvil, one inch high; diameter at top three-quarters of an inch, at bottom, half an inch, fixed on a piece of iron six inches long, three-quarters of an inch broad, and about one-eighth of an inch thick. It has a basin-like depression at the top, in which the diamond, after being split, is fixed with melted lead and lac. No. 5 is a front view of No. 4. The diamond thus mounted is fitted firmly, by means of a wedge, into a groove, made in an iron box, No. 6, about nine inches square and one inch thick, and is now ready to be applied to the polishing-wheel, No. 7, which is of iron, nine

inches in diameter, and one inch thick. A little diamond-dust is thinly sprinkled on its surface; it revolves horizontally on the cap of a square iron spindle, No. 8 A, a cubit long, passing through a sugar-loaf-shaped block of wood, No. 8 B, which is made to revolve rapidly, by means of a strap or rope passing round the grooves, No. 8 CC, and communicating with, and passing round the grooved circumference of, a wooden wheel, No. 9, three cubits in diameter, which is made to revolve horizontally, by means of an iron winch passing through its centre, worked by the hand, and fixed in a wooden frame, whose legs are firmly inserted into the ground. The spindle and block, No. 8, on the cap of which the iron polishing wheel, D, rests, is fixed in a frame of wood, No. 10, twenty-six inches high and twenty-seven broad, the legs of which are inserted into a heavy wooden stool, No. 11, twenty-seven inches broad, three cubits long, and eight inches thick, supported on four legs, three cubits long. AA are the two orifices in which the legs of the framework, No. 10, are inserted; B, the orifice in which the spindle-block, No. 8, and polishing wheel, revolve; CC, holes by which the diamond, when fixed in the grooved box, is applied to the surface of the polishing wheel, at a greater or less distance from its circumference, by means of pins. DDDD represent raised plates of iron, for fixing the iron anvil when soldering the diamond to it. No. 12 is a section of the whole apparatus when put together. A is the wooden horizontal wheel fixed in the frame, B, and made to revolve horizontally by the winch and spindle C. DD represent the rope or strap passing round the grooved circumference of the wheel A, and communicating the motion to the spindle and block E, on whose cap revolves the iron polishing wheel F. G is the wooden frame in which the top of the spindle, H, which, passing through the block, E, revolves. I is the wooden stool before described; and K represents the grooved iron box holding the diamond to be polished to the circumference of the iron wheel F.

*Hindu Classification of the Diamond.*—The Hindu miners apply the great divisions of castes to the different varieties into which they have classed the diamond, viz. :—

The white variety is said to be of the Brahman caste.	
— roseate . . . . .	Kahatriya.
— yellowish . . . . .	Vaisya.
— blackish or bluish . . . . .	Sudra.

*Remarks on the Age of the Diamond Formation, and its relative Position to other Rocks.*—The diamond in India cannot be traced to any older formation than that of the sandstone and its associate

conglomerate, in which it has been found imbedded, or in situ, by Dr. Heyne, at Banganapilly, and by myself at Ramulacota, in Kurnool. This sandstone formation has been classed by Franklin with the new red sandstone of England, but referred by Malcolmson to the more ancient secondary or even transition rocks<sup>1</sup>. Neither of these opinions can, in the present state of our knowledge, be deemed conclusive. No organic remains have hitherto been discovered, either in the sandstone or the subjacent limestone; though it is probable such exist, and diligent search should be made for them, in order to solve the interesting point of the age of the great diamond formation of India. Suffice it here to observe that, lithologically speaking, the sandstone often closely resembles that of the Devonian group of England, with its associated arenaceous and argillaceous schists; and that, although it covers, with the subjacent limestone, large areas in almost horizontal layers, still, at the edges of the great plains of Cuddapah and Kurnool, it is seen resting, in highly-inclined stratification, immediately on granite, as shown in the subjoined diagram.



- 1 Alluvial granitic detritus.
- 2 Regar or black soil, overlying occasional drifted gravel patches, among which diamonds are found scattered.
- 3 Sandstone and diamond conglomerate.
- 4 Blue limestone.
- 5 Granite.

<sup>1</sup> Madras Journal of Lit. and Science for July, 1840, p. 95.



ART. XXVII.—*An Account of the Discovery of the Ruins of the Buddhist City of Samkassa. By LIEUT. ALEX. CUNNINGHAM, of the Bengal Engineers, in a Letter to COLONEL SYKES, F.R.S.*

(Read December 3rd, 1842.)

MY DEAR SIR,

THOUGH personally unknown to you, I am aware, from many of your articles in different publications, of the great interest which you take in the subject of Buddhistical antiquities. I believe, therefore, that what I am about to communicate will be my best apology for the liberty I now take in addressing you. I have read your last Essay on the Social, Moral, and Political State of Ancient India several times over with the greatest interest, and I have traced Fa Hian's route upon the map with unfortunately more zeal than success. Some points, however, I have been able to clear up, which have escaped the researches of all the critics, including Wilson and yourself. It is regarding these that I now venture to address you. I will begin with the kingdom of Seng-kia-chi, or in English spelling Seng-kia-shi.

On leaving Mathura Fa Hian proceeded S.E. eighteen yeu-yan to the kingdom of Seng-kia-shi, which has been recognized as the Samkassam and Samkassa of Pali books, and as the Sankasya of the Ramáyana. Remusat suggests that it is the same as the district of Farokhabad, and Wilson locates it in the neighbourhood of Mainpuri. The position of the kingdom was, of course, somewhere about Farokhabad and Mainpuri; but the actual locality of the capital where Fa Hian saw the ladder by which Buddha descended from heaven, has not been identified by any of the critics, French or English. This capital, however, still exists in the village of Samkassa, situated on the north or left bank of the Káli Nadi, three-quarters of a kos from Aghat Serai, twelve kos from Farokhabad, and twenty-five kos from Kanouj. The village consists of only fifty or sixty houses, on a high mound, which has once been a fort; but all around it for a circuit of six miles there is a succession of high ruined mounds of bricks and earth, which are said to be the walls of the old city. My Munshi's expression of wonder, after having visited these ruins, "*Kanouj sé bardá hy,*" "It is even larger than Kanouj," will convey some notion of their great extent. Amongst them is one mound about eighty feet in height, on which there is a

Brahmanical temple dedicated to Siva, erected some 200 years ago by a Gosain, whose descendant now resides there. It is built of the old bricks, which are of a large size,  $15\frac{1}{2}$  in.  $\times$   $11\frac{3}{8}$   $\times$   $2\frac{1}{2}$ , similar to those which are found wherever Buddhistical ruins exist. (The three stupas at Benares which I opened were built of the same gigantic bricks.) In this temple there is a four-armed figure of Siva in white marble, and a figure of his wife Párvati in yellowish stone. North of the temple there is a stone elephant, nearly four feet in height, on a pedestal, of which only one foot and a half now appears above the ground.

Near this, beneath a *ním* tree<sup>1</sup>, is an erect figure,  $5\frac{1}{2}$  feet in height, with the arms and half of the head broken. It is said to be of Chatrbhoj, which may possibly be true; but from the elongated ears, it must represent a Buddhistical and not a Brahmanical Chatrbhoj. Eastward of the Gosain's mound are the ruins of a temple to Mahadéva: and close by to the southward is the most interesting point in these ruins. It is a small mound of ruined bricks, dedicated to the worship of the Nága<sup>2</sup>. Nothing whatever is erected there; but whenever rain is desired the people proceed to the spot and pray for it. The period of annual worship, however, is the month of Bysákh, just before the usual commencement of the seasonal rains, when the village women go there in procession and make offerings of milk, which they pour upon the spot. This is, no doubt, the identical dragon (*Nága*), which Fa Hian mentions as appearing *once a year*, from whose favour the people of Seng-kia-shi obtained propitious rains and an abundant harvest. It is most interesting thus to trace back with certainty this local worship for nearly fourteen centuries and a half, to A.D. 400, which, though most probably not the period of its origin, yet must undoubtedly be close to the time of its engrafture upon Buddhism.

It is said that Raja Jayachandra of Kanouj, in Samvat 1240 (A.D. 1183), marched an army against Samkassa, and razed it to the ground; and afterwards, at the instigation of the envious Brahmans of Kanouj, he ploughed it up into fields. The ruins are now completely ploughed up, and the large old bricks are piled along the borders of the fields. In these fields also many old coins are found every year, most of which are carried to Kanouj; and lastly, there are no vestiges whatever of Mahomedan buildings; no ruined musjids, idgahs, or tombs. We may, therefore, conclude with certainty that this great city, which was one of the most flourishing in India about A.D. 409, when Fa Hian saw it, and also about A.D. 640,

<sup>1</sup> Melia Azadirachta.

<sup>2</sup> The hooded snake, Coluber Naga.

when Hwan Tshang visited it, had much declined, if indeed it had not been completely ruined before the period of the Mahomedan conquest by Moaz ad din Sâm in A.D. 1188. I incline, therefore, to give some credit to the tradition of its destruction in A.D. 1183 by Jayachandra of Kanouj, at the instigation of the Brahmans, who at that period were violently hostile to the Buddhists.

I was unable to procure any coins, as no rain had fallen up to the period of my Munshi's visit on the 3rd of September, 1842; but I will endeavour to obtain some of them hereafter; and, if possible, I will contrive to visit the place, as I feel convinced that many of the mounds are ruined stupas which would probably yield relics of historical value. It will be a point of much interest to obtain some of these coins, which must undoubtedly be those of the Buddhist sovereigns of Samkassam. I suspect that the old square copper coins with an elephant and swastika on one side, and with the chaitya and sacred bo-tree on the other, belong to this kingdom.

This identification of Seng-kia-shi with the modern Samkassa or Samkissa will enable us to determine with certainty the length of the ancient yeu-yan or yojan. Fa Hian says that Seng-kia-shi was 7 yeu-yans from Kanouj, which are equivalent to 28 kros or kos. Now the distance of the village of Samkassa from Kanouj is always called 25 kos *kurri* (or long), and 28 kos *narm* (or short), equal to 50 miles English; which must be very nearly correct, as the direct distance on the map is 43 miles. The result of this computation is, that the yeu-yan or yojan, was equal to a fraction more than 7 miles English. To test the correctness of this value, it is only necessary to compare another of Fa Hian's distances with the modern measurement. Fa Hian says that from Na-kia-lo-ho, or Nagara, to Pukkalávata, or Peukelaotis, was 16 yeu-yans, equal to 112 miles English. Now by the measurement of the Quarter-Master-General's Department of the British Army, the distance from Jelalabad to Peshawur is 90 miles; and as Nagara was undoubtedly from 10 to 20 miles to the westward of Jelalabad, we may consider the two distances as corresponding exactly. The modern Peshawur also is about 2 miles distant from the old city.

On leaving *Na-kia-lo-ho*, Fa Hian crossed the snowy mountains, the Saféd Koh, and reached *Lo-i*, the modern Rohi or Roh, another name for Afghanistan. From thence he went to Po-na, the modern Banu, or, as it is written by Sheríf-ad-dín, بانو Báu: which is *exactly* three marches from the Indus, as mentioned by Fa Hian.

These are identifications of Buddhistical places actually men-

tioned by Fa Hian. I will add the description of a place most probably seen, although not mentioned by him. At the old town of Maláwan, which lies on the direct road from Mathura to Samkassa, there are some ruins which appear to me to be of Buddhistical origin. These ruins are at the east end of Maláwan, touching the high road from Calcutta to Delhi; in making which portions of these ruins were dug up and removed. They consist of squared kunkur stones, piled up over extensive solid brick foundations. The bricks are of large size,  $13\frac{1}{2} \times 8\frac{1}{2} \times 2\frac{3}{8}$ . The solid structure is still 57 feet from north to south, and 54 feet from west to east. The highest part is not more than 12 feet: but as three wells close to the ruins, besides many houses in the town are built of the very same large bricks, we may safely conclude that these solid brick structures were once much more lofty; and, in fact, that they were the lofty solid buildings of the Buddhists called stupas. The kunkur stones I believe to have formed the facing of these buildings, which cannot, therefore, have had a base diameter of less than 70 feet.

These wrought kunkur blocks are from  $2\frac{1}{2}$  to 3 feet long, and about 10 inches square. Many of them have mouldings deeply cut, and I recognized the ornaments of several stones as being exactly of the same pattern as those upon some architrave stones which I dug up close to the Sárnáth stupa near Benares. These kunkur blocks are loosely piled in some places; but in others they appear to have been regularly laid down upon the brickwork. On a more minute examination, however, I found that many of these stones had carved surfaces underneath, and that many of them besides were resting upon earth and rubbish. Now it seems to me that if the solid brickwork had been merely a foundation for the stonework, it would have been placed under all parts of the stonework alike. The stonework, therefore, *as it at present exists*, must be of a later construction than the brickwork. The stone figures lying about are chiefly Buddhistical. There is one large red stone 5 feet in length, which has upon it two recumbent lions facing outwards, the commonest ornaments on the pedestal of a Buddhistical figure. A kunkur stone has the same. There is also a small red stone about 1 foot in height, which bears a seated figure with the hands laid flat in the lap, and with a small erect figure on each side, (a Buddha and two attendant Bodhisatwas). Over the left shoulder is a small elephant, and over the elephant is a small flying figure, holding out a garland towards Buddha's head, which is rayed by a seven-headed snake. On the pedestal are the usual two recumbent lions facing

from each other. These figures clearly prove the Buddhistical origin of the ruins. In further confirmation of this point, I may add, that there are several deeply-carved semi-circular stones, which have formed part of a column at least  $3\frac{1}{2}$  feet in diameter; and on the ruins there is a headless lion, which no doubt was once placed upon the pillar; thus forming a lion-pillar, which we know was so commonly erected close to a stupa.

By comparing together these different facts, I conclude that the wrought kunkur stones once cased the solid brickwork which still exists, and that the building was a stupa of the Buddhists, accompanied by a lion-pillar. From the brick foundations which exist close by to the eastward, it is probable that there was formerly a second stupa of inferior dimensions.

At Etah and at Pilwa there are also many wrought kunkur stones, the remains of former magnificence.

When I was at Kanouj I searched carefully for Buddhistical remains. The great stupa which was to the north of the Ganges must long since have been swept away by the river. At present the Ganges is fully 2 miles from the most northerly part of Kanouj; while the Kali Nadi runs immediately below the mounds of ruins. But the whole of the intervening ground is low, and there can, therefore, be no doubt that the Ganges once ran close under the walls of Kanouj. Indeed, the high bank on which Kanouj stands is the extreme limit of the right bank of the Ganges, which even now, in an extraordinary flood, joins the Kali Nadi beneath the walls of Kanouj.

On a high mound there is a square cloistered building, called *Sita-ka-Rasoin*, Sita's kitchen. It is said to have been built by one of the Jaunpoor kings; but it can only have been altered by the Jaunpoor king, for the building is certainly not Mahomedan. The domes are formed by circles of ornamented stones placed over one another, and gradually lessening in size until they nearly meet, with one flat stone covering in the top. On the lowest circle the ornament has been removed, and sentences from the Koran substituted. I observed several figures in the walls placed sideways and upside down, in positions which show that the Mahomedans must have placed them there. The building may possibly be Brahmanical, but I should think that it was more likely to have been originally a Buddhist monastery.

To the westward of Sita's kitchen, on the same high mound, is a small square building, in which is a statue (in several pieces) about  $3\frac{1}{2}$  feet in height, which is said to be the effigy of Ajaya Pála, Raja

Chakravarti. It was broken and thrown into a well by Aurangzeb's orders, and was only recovered some years back, when the oldest people of the town recognized it as the figure which was in their younger days called Ajaya Pála, Raja Chakravarti. The ears, however, are elongated, and have long ear-rings, and the hair is peculiarly dressed in two lofty tiers above the head. In the same building there are two other heads not Brahmanical; and a small figure seated with crossed palms, and with a standing figure on each side of him, without doubt, a Buddha seated, and attended by two standing Bodhisatwas, and therefore not Brahmanical.

The most celebrated figures at Kanouj are called Ráma and Lakshmana; but as they have each six arms, they cannot, of course, represent the conquerors of the ten-headed Ráwan.

These observations are not, perhaps, of much importance; but if you think them of any value, you are perfectly welcome to do with them as you please; either to publish them as they are, or to make use of them yourself in some future essay on Buddhistical antiquities.

These few points, which have been ascertained by me on a march upon duty in the rainy season, and without a single halt, will show you what might be done if one had the opportunity of marching leisurely, with time to halt at all places which seemed to offer any objects of interest. The cave-temples of Ajanta and Ellora possess invaluable treasures hidden in the small stupas which most of them have in the interior. To open these, and to search out all the Buddhistical ruins in India, would be works of the greatest interest and importance. With what joy and zeal would not one trace Fa Hian's route from Mathura, his first Indian station, to his embarkation for Ceylon.

To begin at Mathura, and to follow in his footsteps through Samkassam and Kanouj, through Sha-chi, and through Benares and the numerous sacred spots north of Patna (opening the Mozufferpore stupa by the way), through Gaya and its numerous caves, through Rajgriha, and through Orissa, would be an undertaking of vast importance to the Indian government politically, and to the British public religiously. To the first body it would show that India had generally been divided into numerous petty chiefships, which had invariably been the case upon every successful invasion; while, whenever she had been under one ruler, she had always repelled foreign conquest with determined resolution. To the other body it would show that Brahmanism, instead of being an unchanged and unchangeable religion which had subsisted for ages,

was of comparatively modern origin, and had been *constantly* receiving additions and alterations; facts which prove that the establishment of the Christian religion in India must ultimately succeed.

This is a long letter, but I trust the subject is of sufficient interest to gain pardon for my troubling you.

Believe me, with much respect,

Most sincerely yours,

ALEX. CUNNINGHAM,

*Lt. Bengal Engineers.*

*Aligurh, 15th Sept. 1842.*

#### NOTE BY COLONEL SYKES.

In the discovery of the ruins of this city, lost most probably for at least six or seven hundred years since its destruction before the Mahomedan Conquest, we have not only a new proof of the honesty and good faith of the Chinese traveller, Fa Hian; but we have one proof more, added to the multitudinous existing evidences of celebrated and even holy cities claimed by the Brahmans as Brahmanical, from being mentioned in their heroic poems, or the Puranas;—Mathura, Benares, Delhi (Hastinapura), Kanouj, and Sankasya; in their antiquities yielding only fragments appertaining to Buddhism, and nothing *antique* of unquestionable Brahmanical origin. I venture to express a hope that the example of Lieut. Cunningham may be followed throughout India, wherever mounds or ruins are to be met with (and they are sufficiently numerous), and I have little doubt the investigators would be amply rewarded by discoveries, auxiliary to the fixing of historic truths.

The travels of Fa Hian are so little known to the English reader, the book being only procurable in Paris, that extracts from Fa Hian's account of Samkassa may be acceptable, and I therefore annex them to this note.

“De la (Mathura) en allant au Sud-est, à dix-huit yeou yan, il y a un royaume nommé *Seng-kia-chi*, c'est le lieu où Foe après être monté au ciel de Tao-li et avoir, durant trois mois, prêché en faveur de sa mère redescendit sur la terre.” Fa Hian then mentions the tradition of Buddha's descent from heaven by a triple ladder, and his return being expected. “Les grands rois de huit royaumes, leurs vassaux et les peuples, qui depuis longtemps brûlaient du désir de

revoir Foe s'assemblèrent comme des nuages dans ce royaume (de Seng kia chi) pour y attendre *l'honorable du siècle*." When Fa Hian was at Samkassa (about A.D. 400 to 409), only seven steps of this legionary ladder remained visible, a chapel had been built over them by the king Asoko, and upon the middle step a statue of Buddha has been erected, and outside the chapel a square stone column had been erected, about forty-five feet high, with figures of Buddha on the four sides, and a lion on the summit. Already some of these Buddhist columns mentioned by Fa Hian have been found in Buddhist localities, and it is very probable that this identical column might be brought to light by a careful examination of the ruins of Samkassa. A type of one of them exists to this day in front of the Buddhist cave at Karleh, *cut out of the rock*, on the road between Bombay and Poona.

Another circumstance connected with Samkassa was the veneration of the hooded snake, called a dragon by Fa Hian, but appearing once a year to the people in the form of the coluber naga. I will give the passage entire, as it relates to a worship which Buddhist works say was the religion of the inhabitants of Ceylon, Thibet, and other places in Asia, previously to the introduction of either Buddhism or Brahmanism.

"Dans l'endroit du séjour des religieux, un dragon à oreilles blanches fut leur bienfaiteur. C'est lui qui rend le pays fertile et abondant, en faisant tomber à propos une pluie douce sur les champs, et en les garantissant de toutes calamités. Il procure le repos aux religieux, et ceux-ci pour reconnaître ses bienfaits, lui ont construit une chapelle, avec une estrade pour l'y placer. Ils préparent aussi des aliments heureux pour le dragon et lui rendent hommage. Les religieux choisissent chaque jour, dans leur assemblée, trois personnes qu'ils envoient prendre leur repos dans la chapelle du dragon. Leur séjour étant terminé, le dragon prend la forme d'un *petit serpent dont les deux oreilles sont bordées de blanc*. Quand les religieux l'ont reconnu, ils lui présentent de la crème dans un bassin de cuivre. Le dragon descend du haut du trône et vient au bas de l'estrade où il se promène ayant l'air de prendre des informations. Après avoir fait le tour, il disparaît. Il sort une fois chaque année. Ce royaume (Samkassa) est fertile et abondant en toutes sortes de productions. Le peuple y est nombreux, riche et sans comparaison plus joyeux que partout ailleurs. Des gens de tous pays ne manquent pas d'y accourir, et on leur donne tout ce qui leur est nécessaire."— p. 126.

Fa Hian also mentions that at Samkassa, IN THE TIME OF



**SAKYA BUDDHA HIMSELF**, a tower (stupa?) was raised in honour of Sakya's PREDECESSORS, Karkoutchanda, Kanaka Mouni, and Kas'yapa, which *was in existence* in Fa Hian's time. He saw similar monuments elsewhere; and the fact is of great importance to correct a mistaken opinion which generally prevails, that Sakya Buddha, who flourished in the seventh century before Christ, was the **FOUNDER** of the Buddhist religion.

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ART. XXVIII.—*The Past and Present Condition of the Deyrah Dhoon; in a Letter from J. D. MAC DONALD, Esq., of the Bengal Infantry, to COLONEL SYKES, F.R.S.*

(Read December 17th, 1842.)

THE Deyrah Dhoon, or, perhaps, more properly, Dehra Dhoon, is a valley cut off from the Dooab of the Ganges and Jumna by the Sevallic range of hills (average height about 2000 feet), which runs from the Ganges, at Hurdwar, in a north-westerly direction to the Jumna. Parallel with this range, to the north-east, is the first blue range of the Himalayas, on which Mussoorie and Landour are situated. Between these ranges, which are at an average distance from each other of about eight miles, lies the valley of the Dhoon. The bases of the hills, and a portion of the valley adjoining them, on each side, are covered with forests of very valuable timber. The centre of the valley, along its whole length, is open, with one trifling exception; and, where not cultivated, is covered with grass jungle, and a sprinkling of trees, both solitary and in clumps or belts, which, from a distance, gives the country a most park-like appearance. The town of Deyrah, and the cantonments of the Sirmoor battalion, stand in the middle of the valley, where it is intersected in its length by a road from the Ganges to the Jumna, and in its breadth by another from the plains of Indus, (through the Sevallic range,) to the Sanatorium of Mussoorie and Landour. The latter is fourteen miles from Deyrah, (half of which is ascent, the depôt being about 6300 feet above the valley,) and 7500 feet above the level of the sea. The water-shed, called here "pani dal," also is near Deyrah, and streams rising on the one side of it run to the Ganges, on the other to the Jumna. These streams are large, increasing as they get nearer to the great rivers; very pure and clear; and, being of considerable rapidity, are well calculated to turn machinery, or to be turned out of their channels to irrigate the country as they pass.

In traditionary lore, this country beats even my native Grampians. There is not a river, or hill, or a valley in the neighbourhood to which the natives do not attach traditions that run back to the days of pure romance, that is, fiction. Leaving these for the present—though several of them are by no means devoid of interest—I will confine myself to the probable and practical; and, for that

purpose, it will not be necessary to go back further than the days of Jehangir, who bestowed the Dhoon in *Jaghir*, or as a feudal fief, according to Asiatic custom, and to that of the Normans, on one of his Mohammedan Sirdars or Chiefs. This man, whose name can hardly be traced among his titles, and the terms of endearment still bestowed on him in the Dhoon, was a *jewel* of a conqueror! He must indeed have been a man of rare prudence and virtue. I cannot learn the state in which he found the Dhoon; but he left it, when removed by death, a perfect garden. The land richly cultivated; canals and aqueducts in various directions; orchards or mango topes, still in existence; and a dense population attested his industry and protecting benevolence. After the death of this Mohammedan, the Dhoon became a bone of contention among the neighbouring Rajas, and in the lapse of years, after the death of the Emperor Aurungzeb, different Chiefs held alternate sway, according to the strength of their retinue, or the extent of their bribes to the Amlah of the already fast-declining throne of Delhi.

After many struggles and changes, the Dhoon came into the possession of the Srinuggur Raja, some 150 years ago, who managed it, for many years, by means of deputies, called Mutsaddis. In the course of time, the appointment became hereditary in one family; and that family waxing rich, and, as a natural consequence saucy, it became at last so audacious as to beard the Raja, and set his orders at defiance. War on a petty scale ensued; the Raja of the day trying to turn out the Mutsaddi, and he endeavouring to hold his own. Then the distresses of the Dhoon were consummated. Any village that sided with the Raja was plundered by the Mutsaddi's people; and those who showed favour to the deputy were pillaged in their turn by the Raja's men, when they got the upper hand. This state of things continued for years. At last the Raja called in the assistance of his brother, Raja of Nahun or Sirmoor. The latter succeeded in taking the Dhoon from the Mutsaddi; but it seems he "fought for his own hand," for, instead of restoring it to his friend, he held it on his own account for some six years, during which time—as if its own feuds did not bring misery enough—it was two or three times overrun by the Mahrattas. At length the Srinuggur Raja again obtained possession, but had not held it long when he was deprived, not only of the Dhoon, but of his own territory of Srinuggur, by the Goorkhas. These hardy hill-men—the most severe task-masters the poor Dhoon ever had—ruled it with an iron hand for about twelve years, by the end of which time they came into contact with the

Company, and speedily lost their sovereignty along this frontier. The celebrated fort of Kolunga was their last strong-hold in the Dhoon; and on its capture by the Company, after a memorable defence, during which General Gillespie, and many officers and men, were killed, the Goorkha rule, beyond their own kingdom of Nepal, ceased entirely. The Company, on dispossessing the Goorkhas, annexed the Dhoon to their own provinces, but restored the Srinagur territories to the Raja.

It requires no illustration, after the above recital, to account for the valley being, by the time the Company got possession of it, almost depopulated. The wonder is, that any inhabitants were left in a country that had been made the battle-field of so many ruthless factions for nearly a century. It necessarily required many years for such a country to recover itself; and the Company could not, or did not, do more than grant the miserable remnants of the population protection from *dacoits*, and other marauders, (the sure followers of a state of anarchy and misrule,) and lay very LIGHT assessments on the cultivated land. This was not enough; the population was nearly extirpated, and those families that had found refuge in the plains, or in the neighbouring hills, were unable to resume their agricultural operations in the Dhoon without assistance. The jungle had also, in the mean time, become so rank, that even amidst the ruins of old villages, and in the heart of the mango gardens of more happy days, the malaria was so deadly, that even people who had been born in the place were unable to live there as it then stood, and were without capital to make the necessary clearance.

Years passed on, during which scarcely any amelioration took place in the condition of the cultivators. Many, indeed, returned to the homes of their fathers, but it was only to drag out a life of squalid wretchedness upon small and isolated patches in the heart of a jungle which they were unable to subdue,—a jungle that not only nursed the yearly pestilence that consumed them, (the miasma is most deadly in August, September, and October,) but also harboured wild beasts, with whom they had to struggle for the possession of their scanty crops, and sometimes for their own lives, as well as those of their cattle. In those days, European enterprise was discouraged, as connected with agricultural operations in the Dhoon,—the Hon. Mr. Shore, then Political Agent, an amiable and clear-headed man, and a most excellent civil servant, whose name is still venerated in the Dhoon, being of opinion that an acquaintance with Europeans contaminated the natives.

Doctor Royle's recommendation led, about fifteen years ago, to the

establishment of the Sanatorium of Landour and Mussoorie, which are, in fact, one—Landour contains the Convalescent Dépôt and Bazaar, and Mussoorie is a continuation of the settlement “out of Cantonments.” First, a lover of the potato cultivated that celebrated root there, with such success that he was induced to build a cottage within his potato garden. Another gentleman was seduced by the example; and soon these retreats, from being merely the scenes of occasional pic-nics, became the favourite resort of families during the hot weather. The establishment of the Dépôt succeeded; and now the jagged and uneven ridge, at a height of between 6000 and 8000 feet, is studded with cottages to the number of upwards of a hundred, extending over a distance of from eight to ten miles. The only rule has been the whim of the builder. Sites were chosen on account of the shelter or the exposure, the view or the retirement; and the buildings seem scattered over the uneven summits of the ridge, and its projecting promontories, as if strewed by the gods of the mountain in some frolic! Each peak and pinnacle is surmounted by a residence as fantastic in its architecture as its situation is picturesque, and the whole, as seen from the Dhoon, resembles a straggling flock of sheep at graze; I mean *white* ones, such as we see in Europe, for you know there are many black sheep in this country.

The establishment of the settlement of Mussoorie one would think could not fail to have a beneficial effect on the agricultural affairs of the Dhoon, as affording such a near and advantageous mart for its produce; yet such was not the case, or the result was not felt. The Dhoon was too much depressed, and the causes already mentioned proved too strong for the cultivators to cope with without capital, skill, or energy. The new settlement consequently continued for many years to draw its supplies from the Saharunpore district, and the other adjoining provinces.

During the year 1837, a number of gentlemen, including members of the civil and military services, as well as others unconnected with Government, applied for and obtained grants of land in the Deyrah Dhoon, on the same terms<sup>1</sup> as those upon which land had been granted to settlers of Gorukhpoor, and other waste districts. At this time there were, say from 20,000 to 25,000 acres of the whole area of the Dhoon under cultivation; the remaining portion was a vast wilderness, filled with wild elephants, tigers, bears, deer, &c., the whole more or less unhealthy, malaria (from the extent of

<sup>1</sup> For these terms, and the present extent of the grant, see Appendix, Nos. I. and II.

rank vegetation) prevailing to a great degree from the setting in of the rains until the end of October. "It is now amusing," writes Mr. Mc Gregor, "were it not equally mortifying, to think of the very sanguine expectations that were then entertained by the proprietors. Some of them had voluminous calculations fairly drawn out, which most incontestibly proved (on paper) that large fortunes must be realized in a very few years; and although I myself was never led away by these hopes, I did expect very different results to any that have yet taken place."

The easy terms on which the grantees were to hold the lands, compared with those obtained in the Saharunpoor, and the neighbouring districts, the inhabitants of which would be their only competitors in the market—they being so much nearer the great marts for farm produce (Landour and Mussoorie), which would give them the advantage of 12 or 18 per cent. in carriage alone—and the known fertility of the soil, were facts on which sanguine hopes might have been based of converting the grant into an estate that would yield a handsome return in a few years.

The very luxuriant growth of the indigo plant, and the sugarcane also, encouraged the hope that those two staple articles (indigo and sugar) could be produced to much advantage. To them, and to the cultivation of the indigenous grains of the country, namely, wheat, barley, rice, maize, &c., attention was immediately directed.

Before anything could be done, however, it was evident that people must be procured; for so scant was the population, that, except in the immediate vicinity of the station of Deyrah, guides were required to thread a country where there are now good roads and many villages. To obtain a population, therefore, were the thoughts of all the grantees directed; and circumstances, which afterwards proved ruinously deceptive, seemed at the time to favour their views. At the very time that the grantees commenced their operations, the famine of 1837 was devastating Upper India; and while fertile soil was here lying waste, for want of cultivators, thousands of that class were dying of starvation in the Delhi, Minpooce, Agra, Cawnpoor, and other districts. Agents were, therefore, sent to engage the starving peasantry of these districts to emigrate to the Dhoon at the expense of the grantees, who had thus the satisfaction of *knowing* that they were rescuing hundreds of families from ruin, and of *thinking* that they were effectually peopling their grants at the same time. In this manner, and at very great expense, several thousands of the poor sufferers were rescued from starvation, and brought into the Dhoon. Houses were built

for them; daily food was supplied to themselves and families; and when so far recruited as to be able to work, the greater part were furnished with cattle, ploughs, subsistence, seed, and, in short, everything necessary to set them up as cultivators, and to support them till they had reaped one crop. The remainder were retained as hired servants, on monthly wages, and sent, to the number of several hundreds, to plough and prepare land for indigo, sugar, &c. |

During the first six months of 1838, everything went on beautifully. The new-comers were contented and happy; the climate was delightful; a great quantity of land had been broken up, and sown with indigo, rice, &c. In short, nothing could be more satisfactory and cheering than the aspect of affairs on the 1st of July, 1838. But this appearance was utterly deceptive. The proprietors of the grants were standing on a loaded mine, of the existence of which not one of them had the least idea.

The rains set in about the middle of this month (July), and it is now known that malaria commits fearful ravages among those exposed to it between the months of July and October in the Dhoon jungles. The poor people who had been brought from the plains had not thoroughly recovered from the shock which their constitutions had received from the famine which had made them involuntary emigrants. Fever and ague made their appearance among them about the middle of July, and for the next two months, though the mortality was not great, the suffering was immense.

I cannot give you a better idea of the state of the grants at the end of the month of October, than by quoting the words of Mr. Mac Gregor, who at that time had charge of a considerable portion of land on the banks of the Jumna. On the 12th of September, he was taken ill of "jungle-fever." The violence of the attack was so severe, that he was obliged to leave the grants, and go to Mussoorie for medical aid, where for some time his life was despaired of. By the 20th of October he was sufficiently recovered to return to the scene of his labours.

He writes:—"Of several hundreds whom I had left on the grant, and left fully provided with food, medicine, and five native medical attendants, and who, now that the sickly season was over, I hoped would all be very soon able to resume their labours, only thirty-eight souls remained. Of the rest, several had died (about ten per cent.), and the remainder had run away to the plains, carrying off with them the tools and implements with which they had been supplied. Some were even so impudently ungrateful as to carry off with them cattle entrusted to their care." Times had mended in the Doob, and

these unhappy exiles were but too glad to get back to their own homes, now that starvation no longer stared them in the face. No attempt was ever made to induce them to return; or even to restore the property they had taken away.

At the end of 1838, the results of the first year's experiment were as follows:—The grantees were convinced of the extreme fertility of the soil; for everything that was tried grew most luxuriantly, such as indigo, rice of various kinds, maize, &c. and of the finest quality of indigo that might be produced; for the few maunds, made before sickness had completely paralyzed the energies of the workmen, were of a superior description; but the unhealthiness of the locality was undeniable, and not to be borne up against. I do not believe that a single person, European or native, engaged on the grants during the period I have mentioned escaped fever. Thus the grantees had the mortification to see splendid rice crops left to rot on the ground, in the very time, too, when famine was devastating Upper India, for want of hands to reap them. The valley was at this time divided into several grants, and belonging to different parties.

By combinations, coalitions, and purchases, effected at different periods, all the grants of any consequence are now one property, or belonging to one proprietary body, of which Mr. Mac Gregor is sole manager. The result of the combined efforts since the commencement is only that they have now 1050 families of asámís, or subtenants, cultivating from eight to ten acres each, and paying, on an average, eighteen rupees per annum; but they would require double this number of asámís, or cultivators, to give a return that would support an European manager, besides the indispensable native establishments, and afford a surplus equal to the ordinary interest for the money sunk.

The difficulties that were so alarming at first, and which rendered European management indispensable, no longer exist: the settlement of asámís is become a matter of routine, conducted by natives. Mr. Mac Gregor is at present, I believe, engaged in perfecting a system of native superintendence, initiating into its details clever natives, (who are better calculated to conduct the routine of village management, when once that routine has been fixed, than Europeans are), preparatory to making over the management to them, which, under rules and regulations drawn out for their guidance, and under the surveillance of some of the partners in the neighbourhood, they will be able to conduct at one-half of the present expense.

Though the result of their endeavours has not realised the



expectations of the most moderate-minded of the grantees, yet it is not to be supposed that but little good has been effected. The comfortable settlement of a thousand families that would otherwise have starved, or led a life of wretchedness, and the recovery of 10,000 acres from the jungle<sup>1</sup>, are matters of satisfaction, though, as yet, not of much profit. The cultivation has, no doubt, added much to the healthiness and to the beauty of the valley, but much yet remains to be done; and without the assistance of government, in draining swamps and opening cuts or canals from the main streams, some of the grants that as yet remain untouched on account of their insalubrity, and others on account of the want of water for drinking, must be abandoned.

If the proprietors throw up the unhealthy grants<sup>2</sup>, they revert to government; and it is not likely that any other adventurers or natives will ever attempt to clear away and cultivate that which the present grantees, even with such superior means at their command, have abandoned. These unhealthy spots, therefore, are likely, if government do not interfere, to remain untouched; and to be, not only unhealthy in themselves, but hot-beds for fever, and for generating malaria enough to poison the whole valley. Government has already cut one small canal, which is of much benefit; and the grantees have, at their own expense, made several still smaller ones also of much use: and had they (the grantees) not suffered such heavy losses by the absconding of so many asámís, or cultivators, they would, of their own accord, have drained swamps, and cut more canals. But the capital at their disposal has already been expended; and without assistance from government, these grants cannot improve much in point of climate, the grand desideratum, for many years to come.

At present, for an outlay of 250,000 rupees, returns do not exceed from 18,000 to 20,000 rupees per annum, of which sum about one-half is expended in management. It is to be observed that of the above sum, not one-half has been expended on that which has turned out the only source of return, namely, the present sub-tenants; the remainder has been thrown away on those who have absconded, on experiments, buildings, and on unproductive establishments.

It is true that money laid out on advances to asámís will yield, if they remain and are tolerably industrious, forty per cent. per annum; but in the infancy of the speculation, much money was lost in the purchase of experience, before people knew what would pay,

<sup>1</sup> See Note in Appendix.

<sup>2</sup> The unhealthy grants are marked \* in the second note.

and what would not; and consequently the gross returns now barely equal what the spirited capitalists would receive had they invested their money in government securities. Their zeal, enterprise, and perseverance, deserved a better fate; and it is to be hoped that government, by contributing to the healthiness and capabilities of the valley, will enable the grantees to bring the whole of their grants under cultivation,—a measure which would not only enable them to recover their lee-way, but be of immense public benefit.

I shall now add a few words under the heads of Climate, Population, &c., though at the risk of repeating much of what I have already said.

#### CLIMATE.

Where the country is cleared, and at some distance from swamps and dense jungle, the climate is good; and, under these circumstances, sickness does not equal that of the plains. In fact, I consider the Dhoon, except from July to the end of the rains in October, when fever and ague prevail to a great degree, to be, in point of climate and salubrity, preferable to any other part I have seen in India. It is also found, even during the unhealthy season, that people get seasoned to the climate after the first year or two, and are less incommoded, as these complaints are generally confined to new comers. Mortality is generally occasioned by debility, the effects of continued attacks of fever and ague, or from that severe scourge the Dhoon or pakka jungle fever<sup>1</sup>. I have no doubt that were the causes of these diseases removed, namely, rank jungle vegetation, and swamps, producing malaria, the effect on the salubrity of the valley would be in proportion. You will perceive, by a Meteorological Table in the Appendix, that the mere temperature is not sufficient to produce fevers, as is the case in most other parts of India. The average temperature for the years 1840 and 1841 does not exceed 75°; neither is the transition from hot to cold so great, nor so sudden, in proportion to the temperature, as in the plains of India. From July to the end of September the quantity of rain in the Dhoon is in excess of what falls in the Dooab, and other parts of the continent of India. The hot winds never blow in this happy (at least, as far as temperature is concerned,) valley. The sportsman may wander about the whole day with but common precautions (such as *sola topis*, &c.) against the effects of the sun; in fact, he may have as many hunting days as his less fortunate brother (in respect to variety and quantity of game) in your more northern climes.

<sup>1</sup> See Appendix, No. 6.

## SOIL.

The soil is generally a fine deep mould, except in the immediate neighbourhood of the station of Deyrah; and where stones, gravel, &c., have been deposited by hill-torrents. The produce of the land varies with the degree of pains taken with the cultivation. With the same attention and care, I doubt not but the Dhoon would give a higher return than land in the plains.

## PRICES.

Prices vary greatly; thus, in some years produce sells much dearer in the Dhoon than in the plains, and *vice versa*. Last year grain was forty per cent. dearer in the Dhoon than at Delhi; this year it is about forty per cent. cheaper. By the supply of oats from the farms, the price of grain in the Landour market has been reduced considerably.

For the natural productions of the Dhoon I refer you to the published reports of the Hon. Mr. Shore (Calcutta, I think, 1826), and to Captain Brown, and to the Bengal and Agra Guide and Gazetteer of 1841, in all of which you will find them enumerated. Of none of these have the grantees availed themselves as articles of commerce, as all the unoccupied portion of the Dhoon is open to people to take away what natural productions they fancy. Thus the natives are able to bring into the market building materials, for which there is great demand at Landour and Mussoorie, at prices which would hardly remunerate the grantees.

## TREES, GRAIN, ETC., LATELY INTRODUCED, AND THE RESULTS.

Various ornamental trees, as well as those which may at some future period be valuable as timber, have been introduced on a small scale; and all appear to thrive well. The tea shrub was introduced by Mr. G. H. Smith, of the Civil Service, in 1838, and is found to thrive admirably; and government has established an experimental nursery, with a view of ascertaining if this product can be raised with advantage. As far as two years' experiment enables Dr. Falconer, the Superintendent of Government Gardens, N. W. P., to form an opinion, the tea-tree will thrive as well, if not better in the Dhoon, than in any part of the continent of India. One of the tea plants has, for two years past, produced and matured seed. Indigo, and Otaheite and Mauritius sugar-cane have also been introduced; but heavy losses have as yet been sustained from these sources, from the thinness of the population, and other causes, which have operated against carrying on the manufacture of indigo and sugar on a suffi-

ciently large scale. Cotton of improved varieties, American maize, various cereal grains from all parts of the world have been introduced, but have not been as yet cultivated on a sufficiently extended scale to warrant any decided opinion being formed regarding them. The mulberry-tree grows in great luxuriance. I am not aware that silk worms have ever been tried in the Dhoon; at all events, I fear that a scanty population would be a bar to speculation with them. A small batch of indigo made in 1838 was pronounced by competent judges in Calcutta equal to the best Bengal blue. All attempts to breed live stock have proved abortive, owing to unforeseen causes, but principally to sufficient care not being devoted to the subject.

#### POPULATION.

The population, in 1823, according to the Hon. F. J.	
Shore, was . . . . .	20,179
Ditto, in 1838, according to Captain Brown, Revenue	
Surveyor . . . . .	30,817
	<hr/>
Increase . . . . .	10,638

I believe no census has since been taken; but I should say the total cannot now fall short of 50,000 souls. The station of Deyrah has gradually become a large town, in the neighbourhood of which are many houses, the property of Europeans. Rajpooor has since sprung up a flourishing village. These, with the addition of the grants, cannot fail to make up the population to the number I have mentioned. The average population of the united grant from the 1st of June, 1840, to 31st of May, 1842, was 2,320; number of deaths 93, being 4 per cent.

In concluding this paper, I do so in the belief that "there is not in the wide world a valley so sweet" as that of which it treats. In scenery it and its neighbourhood are certainly of the first order. I cannot, even though my prejudices prompt me to do so, compare my native hills and straths to them. It contains two of the noblest (and esteemed by the Hindus the holiest) of rivers. I allude, of course, to the Ganges and Jumna. As a sporting country, it is superior to any in India. This is saying a great deal; but it will be allowed, when you consider the quantity and variety of game, including the wild elephant, with whom a tussle is a grander and more exciting affair than the much vaunted charge of the "Royal Bengal tiger," which is found also in great plenty. Mr. Mac Gregor shot one last year in his garden. The leopard, buffalo, deer, almost in endless variety, including the red deer of Scotland, here called barah singa

(twelve-antlered). The bakur (*Cervus muntjac*), or barking deer, and hog, and spotted deer (*Cervus axis*), in great numbers. The fly-fishing in the Dhoon is perhaps superior to any in the world.

A few years ago, Colonel Frederic Young kept a pack of imported English hounds at Deyrah, which he hunted regularly, affording much sport.

In taking leave of Deyrah Dhoon, I fear I may have tired you already; should it happily be otherwise, I shall be delighted if I can give you any further information, and shall revert to the subject with pleasure.

#### NOTE BY COLONEL SYKES.

[The preceding history of the Deyrah Dhoon manifests the melancholy consequences resulting from the instability of the governments of India. During a vigorous and fostering native administration, everything flourishes and prospers, as if by magic; and, as magically, anarchy, ruin, and desolation follow conflicts for authority, changes of rulers, and abuse of power. The extension of British authority to the valley will remove the primary evil of ephemeral control; and by the grants of long leases, with fixed light assessments, and forbearance in the early introduction of our fiscal and judicial systems, the period may not be distant, when a tract of country so peculiarly favoured by geographical position, shall be restored to its pristine prosperity.]

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## APPENDIX.

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### No. 1.

The terms on which the grants are held are as follows:—

“ \* \* \* \* The conditions herein stated; that is to say, for the first fifty years, on the following engagements:—

“ 1st. To clear, according to the undermentioned proportions, the whole grant within the period of twenty years, with the exception of — acres of irremediably barren land, and one-fourth of the remainder deducted, as approved of by government.

“ 2nd. To clear the jungle, and bring into cultivation the culturable land included in the grant within the period of twenty years.

“ 3rd. If no commencement be made to clear within the first

year, the settlement to be void, and the grant resumable by government, who may settle it with any other persons.

“4th. If one-fourth of the whole culturable land be not cleared and cultivated within the first five years, the remainder to lapse to government, or a settlement to be made with any other person.

“5th. If one-half of the whole culturable land be not cleared and cultivated in ten years, the remainder to lapse to government, or a settlement be made with any other person.

“6th. If the whole culturable land be not cleared and cultivated in twenty years, the remainder to be at the disposal of government.

“7th. To pay, according to kistbandis in use in the Dhoon, the following yearly jamas, viz. [here in the warrant follow tables calculated for the indent of each grant separately, instead of copying any one of which, I will state the terms briefly, as follow:—To pay on the area, after deducting as in the 1st paragraph of these conditions, for the first three years, till the fourth year, 15 annas and  $\frac{1}{2}$  pie per 100 acres, increasing yearly till the forty-ninth year, when the payment per 100 acres will have increased to 76 rupees, 14 annas, and 5 pie per 100 acres, at which rate it remains fixed till the end of the lease of fifty years. The leases are then renewable at the ordinary rates of the district.] \* \* \* These jamas are to be recoverable according to the rules and regulations in force for the collection of the revenue from the Malguzars, farmers, &c., in cases of arrears.

“8th. The standard of measurement to be the British standard acre, consisting of 4840 square yards; and the government shall be at liberty to measure the land in the sixth, eleventh, and twenty-first years, with the view of ascertaining that the conditions respecting the clearance of the specified portion of land by each of these periods have been fulfilled.

“9th. The grantees to erect boundary-marks round their grants, and to keep them in a state of repair.

“10th. The public highways are not considered included in the grants of land through which they run, and remain the property of the state.

“11th. The grantees are to pay a contribution of one per cent. per annum on the amount of their jama for the year, for the repairs of the high road, in lieu of all demands of the state for repairing the high road. The grantees will have no claim on the government for making or repairing private roads.

“12th. The right of government to take land for roads, canals, or other public purposes, in the mode laid down by regulation is to remain in force in land included in this grant.

"13th. All right of way from the villages to watering places, and from villages to the high roads, are to be respected; and any dispute to be settled by the officers in judicial charge of the Deyrah valley, under the control of the commissioner.

"14th. The right to all mineral product found within the grant is reserved to government; and the right to take limestones and other stones from the bed of any stream or river passing through the grant is reserved to the public: any persons are, therefore, at liberty to take the same without let or hindrance from the grantee.

"15th. The right to distribution of water for irrigation is reserved to the state: government will direct such cuts and sluices to be made as may appear proper.

"16th. The grantees are bound to conform to such rules regarding police arrangement as may be determined on, and to appoint and support a gorayat for each inhabited village, if required.

"17th. The grantees are bound to conform to all regulations and acts of government, in common with all landholders."

The above are the conditions, which are most liberal; but, unfortunately, the unhealthiness of the valley neutralises the liberality of government. By-the-by, Condition No. 14 checks all mineralogical research, which is impolitic, in my opinion, though perhaps there may be some good cause for it.

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### No. 2.

The following Table shows very nearly the Contents of the Grants, and the Nature of their Soil.

Names of Grants.	Total Area in Acres.	Deduct Irremediable barren Acres.	Remains useful Acres.	Deduct $\frac{1}{2}$ as provided by Government.	Area to be engaged for.
Arcadia - -	5499	1727	3772	943	2829
Markham - -	5861	2145	3716	929	2787
Hopetown - -	18,813	6168	12,645	3161	9484
Attica - - -	6072	2213	3859	965	2894

The\* Jogeewalla Forest, containing 11,496 acres, and Gosaeen-walla Forest, containing 2964 acres, have been applied for, but not confirmed.

The Jumsfael Grant, containing about 7000 acres, has been confirmed; but I have not been able to ascertain its detailed measurement.

\* Those marked with an asterisk are particularly unhealthy.

## No. 3.

## The unoccupied Lands in the District of Deyrah Dhoon.

The following is a Statement<sup>1</sup> of the unoccupied Forests and Lands in the District of Deyrah Dhoon.

No.	NAMES.	Fit for Cultivation.		Barren.		Total Acres.
		Capable of yielding an immediate return.	Not capable of yielding an immediate return.	Hills, Forests, and Ravines.	Waste, &c.	
1	The Chunderbunee Forest	1794	5461	4981	6341	18,577
2	The Timlee Forest . .	931	5906	2431	4485	13,843
3	The Piritheepoor Forest	90	2046	...	938	3074
4	The Chaundpoor Forest	863	1488	...	1734	4085
5	The Suhienpoor Forest	1916	5688	3018	5046	15,668
6	The Umbarree Forest .	...	1085	5705	1194	7983
7	The Horawalla Forest .	305	1815	...	1243	3363
8	The Boolawalla Forest .	2724	5922	5701	6350	20,706
9	The Seouree Forest . .	1569	...	...	1337	2906
10	The Motrowalla Forest .	990	3814	2297	3804	10,905
11	The Muvaduh Forest .	3561	5550	7711	5510	22,432
12	The Thano Forest . .	2433	6692	...	5560	14,685
13	The unoccupied Lands at Kunhurwalla . . .	122	...	...	87	209
14	The Beerpoor Forest .	197	177	95	146	455
15	The Forest of the Bengala and Rumbuha Nudees	750	13,160	...	6014	19,924
16	The Forest of Moteechoor	2663	1828	8891	5553	18,945
17	The Jogeewalla Forest .	5503	1365	...	4628	11,496
18	The Ganges Khadar .	1023	...	...	1013	2036
19	The Gosacenwalla Forest	2132	...	...	832	2964
20	The Dholkoti Forest .	998	3351	...	3117	7466
Totals . .		30,564	65,378	40,740	65,040	201,722
		95,942		105,780		201,722

<sup>1</sup> Copied from "The Hills" newspaper, published at Mussoorie.



No. 4.

Average Temperature at Hopetown for 1840 and 1841.

1840.		1841.	
January . . . . .	58½	January . . . . .	61½
February . . . . .	63	February . . . . .	64
March . . . . .	74½	March . . . . .	67½
April . . . . .	83	April . . . . .	78½
May . . . . .	86½	May . . . . .	81½
June . . . . .	86	June . . . . .	88½
July . . . . .	83½	July . . . . .	85½
August . . . . .	81½	August . . . . .	82½
September . . . . .	81	September . . . . .	81½
October . . . . .	75	October . . . . .	74½
November . . . . .	67	November . . . . .	67½
December . . . . .	61½	December . . . . .	60½
General average . . . . .	75½	General average . . . . .	74½

or .00067 in excess of 74½

The above are the averages of three observations daily—at sun-rise, the highest range during the day, and sun-set. The thermometer in a southern verandah, and not exposed to reflection from the ground.

No. 5.

Abstract Register of Rain at Hopetown from January, 1839, to April, 1842.

	1839.	1840.	1841.	1842.
January . . . . .	3.26	5.31	0.87	0.75
February . . . . .	5.90	0.02	1.64	2.10
March . . . . .	3.14	0.29	1.42	0.23
April . . . . .	0.02	0.43	0.24	0.00
May . . . . .	1.03	0.59	1.62	
June . . . . .	3.23	8.14	3.87	
July . . . . .	15.90	21.58	19.61	
August . . . . .	26.76	13.13	17.53	
September . . . . .	6.66	8.11	8.28	
October . . . . .	0.00	0.08	0.24	
November . . . . .	0.92	0.26	1.26	
December . . . . .	0.29	0.00	2.62	
Totals . . . . .	67.11	57.04	59.20	

## No. 6.

Dr. G. C. Wallick, at present attached to my regiment, and who has had some experience of the Dhoon, has kindly furnished me with the following note:—

“ Fevers are comparatively rare in the valley of the Dhoon during the dry months of the year, with the exception of such as arise from accidental causes, local influence exerting very little effect at such times in inducing any peculiar type of the disease. During the rain, however, and in consequence of the rich and rank vegetation in which the whole valley is clothed, from being under the action of numberless small streams, from the formation in the lower ground of extensive and stagnant marshes, and more especially from the miasma exhaled from the exuberant growth and increase of the underwood, as also of the trees themselves composing these mighty forests, fevers, somewhat peculiar and local, are generated; and, in fact, for a European constitution, at the above season, even a journey through, far more a residence in, these wilds, would be certain of producing them. The most prominent distinguishing features of these fevers are their approaching latterly, from a remittent to intermittent, more nearly to the continued, and verging into the typhoid, with its concomitant low delirium and rapid prostration. For this season travelling is as much as possible avoided, although the risk is frequently run, and even with impunity. Of course, where the forests have been cleared, and the land undergone draining and regular tilling, the climate is as healthy as in any other parts of India.”

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ART. XXIX.—*A Letter to RICHARD CLARKE, Esq., &c., &c., &c.,  
Honorary Secretary to the Royal Asiatic Society, on a MS. of  
the Jámi al Tawárikh of Rashíd al Dín, preserved in the  
Library of the Honourable East India Company.*

MY DEAR SIR,

IN the year 1838 I had the good fortune to discover, amongst the MSS. preserved in the library of the Royal Asiatic Society, a volume containing portions of the Jámi al Tawárikh, previously supposed to have been lost; and in the following year I had the honour of laying before the Society an account of my discovery, which was subsequently printed in their Journal<sup>1</sup>. After I had written this account, and whilst it was passing through the press, Professor Forbes found another and more considerable portion of the same work in the collection of MSS. of the late Colonel Baillie, which was, singularly enough, written by the same hand, and evidently had formed part of the identical volume that I had previously met with. Professor Forbes gave a description of the MS. of Colonel Baillie in the same volume of the Journal<sup>2</sup>. These fragments were in the Arabic language, and were translations from the original Persian work.

Very shortly afterwards, to complete this curious chain of discovery, which has rescued from oblivion one of the most valuable of the Oriental histories, lost for upwards of five centuries, Professor Falconer found a MS. of the Jámi al Tawárikh in the library of the East India House, in Persian, apparently containing the entire work; this MS. was placed in the hands of Professor Forbes, who undertook to prepare an account of it for the Journal of the Society, but his other occupations not allowing him leisure, he deputed to me the task of describing the precious volume. The MS. accordingly has, by the kindness of Professor Wilson, been confided to my care, and the following remarks are the result of my examination.

The MS. in question is of a large folio size, and contains in all

<sup>1</sup> See Journal of the Royal Asiatic Society, Vol. VI., p. 11.

<sup>2</sup> Ibid., p. 33.

1189 pages; but as numerous spaces have been left for the insertion of paintings, the actual volume of the work is not equal to its apparent extent; the character is a small and tolerably clear Nastalik; the transcriber was evidently both careless and ignorant, and the text abounds with errors—this is particularly conspicuous in the spelling of the names of places and individuals, the same name being frequently written in two or three different ways in the same page; many considerable omissions also occur in the body of the work, the original from which our MS. was transcribed being, in all probability, damaged or defective in those parts.

The *Jámi al Tawárikh* consists of a collection of histories, (as its name imports,) each distinct from the others and complete in itself. Those contained in our MS. occur in the following order.

I. A general history of Persia and Arabia, from the earliest times to the fall of the *Khiláfat*: this history comprises a preface (مقدمه) and two sections. The preface contains an account of Adam and his children, of *Núh* and his posterity, of the reign of *Kaiomars*, the first of the kings of *Fars*, and of the tribes of the Arabs, to the time of the prophet *Muhammad*. This preface mentions that the history was composed in the year of the Flight 700, from various traditional and written authorities.

Section 1 contains a history of the kings of *Fars*, and of the events that occurred in their respective reigns; also accounts of the prophets from the time of *Kaiomars* until that of *Yazdajird*, the last of the kings of *Ajam*.

Section 2 contains a copious and detailed history of the prophet *Muhammad* and his *khalífahs* to the time of *Al Mutasim Billah*. This history, which in our MS. comprises 364 pages, was transcribed in the month *Shawwál*, in the year of the Flight 1081. It is contained entire in the MS. of Colonel *Baillie*, with the absence of forty-six leaves, seven of which are, however, to be found in the MS. of the Royal Asiatic Society.

II. A concise history of the Sultán *Mahmúd Sabaktagín*, the *Ghaznavides*, the *Samánides*, the *Búyides*, and some others, to the time of *Abú al Fath Módúd Ben Masaúd*, and the year of his death, viz., the 547th of the Flight. This history comprises fifty-six pages, and was transcribed in the month *Zí'l Hijjah*, and the 1081st year of the Flight. This also is in Colonel *Baillie's* MS., of which it forms the third portion.

III. A history of the *Saljúkí* kings and of the *Atábaks*, to the time of *Toghrul Ben Muhammad Ben Malik Sháh*, the last of the

Saljúks, who was slain in the year of the Flight 589. It comprises forty-two pages<sup>1</sup>.

To this history is added a supplement, composed by Abú Hámid Ibn Ibráhm, in the year of the Flight 599; it contains an account of the fall of the Saljúks, and the history of the kings of Kh'árizm, to the time of Jalál al Dín, the last of that dynasty. This supplement comprises twenty-five pages, and apparently formed part of the original Jámi al Tawárikh, as Professor Forbes mentions two leaves existing at the end of Colonel Baillie's MS., which are occupied with the history of Kh'árizm.

IV. A history of Oghúz, and of the other sultáns and kings of the Turks; it comprises twenty-two pages. At the end, it is stated that this history is to be followed by that of the Kháns of Chín and Máchín.

V. A history of Khítá, and of the kings of Chín and Máchín, to the time of the conquest by the Mongols. It comprises forty-six pages. At the end it is stated that this history is to be succeeded by that of the Baní Isráíl. The concluding part of this account of Khítá is contained in the MS. of the Royal Asiatic Society.

VI. A history of the children of Israel, comprising forty-eight pages. At the end it is stated that this history is to be followed by that of the Franks, and the date of transcription is said to be the month Safar, in the year of the Flight 1082. The first portion of this history occurs in the MS. of the Royal Asiatic Society.

VII. A history of the Franks, from the creation of Adam to the time when the author wrote, viz., the 705th year of the Flight, giving a short account of the various emperors and popes, amounting to little more than a list of misspelt names. It comprises 122 pages, and bears the date of Rabi al Awwal, in the year of the Flight 1082.

VIII. A history of the Sultans of Hind and of the Hindús. It comprises fifty-eight pages. This history exists in the MS. of the Royal Asiatic Society, supplying the lacuna in that MS., where about six pages are wanting.

IX. A treatise on metempsychosis, extracted from the Tawzíhátí Rashídí by Rashíd al Dín. This treatise comprises twelve pages. The date of transcription is Rabi al Awwal, in the 1082nd year of the Flight; the name of the scribe is also here given, viz., Táhir Ibn Al Bákí Aláyí.

<sup>1</sup> This history is, I believe, also contained in Colonel Baillie's MS., but is imperfect towards the end.

X. The general preface and contents of the whole volume, headed **هذا كتاب جامع التواريخ** "This is the book of the collection of histories." This preface comprises eight pages. It has been published, with a translation by M. Quatremère, in the first volume of the *Collection Orientale*.

XI. The first volume of the *Jámi al Tawárikh*, entitled the *Tárikhi Gházání*, and containing an account of the Turks and Mongols to the time of Oljástú Khodábandah, who reigned when the author completed his work. This history comprises 386 pages, and was transcribed in the month *Shabán*, and the year of the Flight 1082.

From a comparison of the above table of contents with that prefixed to the *Tárikhi Gházání*<sup>1</sup>, it will appear that our MS. does not, as I had at first imagined, contain the entire work of Rashíd al Dín; the parts wanting, according to the latter, being,—1st, the first division of the second volume, containing the life of Oljástú Sultán. 2ndly, the second part of the second division of the same volume, which was intended to form a sort of journal of the life of Oljástú. 3rdly, the whole of the third volume, which contained the geographical charts, routes, &c.

It is, however, very probable that the latter portions never saw the light. We find that the entire work was composed, transcribed, bound, and deposited in the mosque at *Tabríz*, in the year of the Flight 710.

The author of the *Tárikhi Wassaf* states that Rashíd al Dín continued his work until the year 712; this favours the supposition that we possess the *Jámi al Tawárikh* in the state of completion in which it was originally deposited in the mosque, and would lead us to infer that the continuation above mentioned related to the history of Oljástú. Whatever may be the case, we have clearly before us the greater and more valuable part of the history, as we can easily dispense with the circumstantial *Akhbárát* of Oljástú's court.

It is not easy to account for the order in which the various histories in our MS. succeed each other, though the dates in the epigraphs evidently prove that the volume was transcribed in the order in which it is bound. The general preface and the *Tárikhi Gházání* should clearly come first, forming as it does the first volume. The second volume (omitting the first part of the life of Oljástú, wanting in our MS., and which forms the first division of the second volume) would then commence with No. I. of the table

<sup>1</sup> See *Journal of the Royal Asiatic Society*, Vol. VI., p. 18.

above given, and proceed rightly to the end of the supplement of Abú Hámid, which I conceive, for the reason before given, to have formed part of the original work: this would complete the first section of the second division. But the history of Oghúz, which follows, seems here totally out of place, the more especially as Rashíd al Dín repeatedly refers to it in the Táríkhí Gházání, stating, in reference to certain individuals, that their history would be afterwards given in the Táríkhí Oghúz, which he intended to add as a *supplement* to the Táríkhí Gházání<sup>1</sup>. Perhaps, however, from his expressing himself thus, the Táríkhí Gházání was not completed till some time after the Táríkhí Oghúz was written, and probably it appears here in the order of its composition, and not of its connection with the histories which immediately precede and follow it. The second section of the second division of this volume (supposing that the Táríkhí Oghúz were restored to its proper place<sup>2</sup>) would commence with the history of Khitá, and finish with the history of Hind. The tract on metempsychosis perhaps was not included in the original MS. of the author, but its interesting nature well entitles it to its present place.

After all, it is but of little consequence in what sequence the several histories occur, as each is complete in itself, and most of them have separate prefaces; in fact, it might have been better if more frequent reference had saved the author and the reader the tedium of repetition.

When first this MS. was placed in my hands, I found that it contained the original Persian of the Táríkh al Hind wa al Sind which exists in the Arabic MS. of the Society, and which had particularly interested me when the latter first came under my notice; I therefore hastened to avail myself of the recent establishment of the Society for the Publication of Oriental Texts, and offered to prepare for them an edition of the Persian text of the history of India, from a comparison of the two MSS. My proposal was accepted, and I trust that, before long, I shall be enabled to publish the first part of my work, as a considerable portion is already transcribed and collated.

In my previous communication to the Royal Asiatic Society, on the subject of the Jámí al Tawáríkh, I mentioned that M. Quatremère had commenced the publication of the text and translation of

<sup>1</sup> From this, one would infer that it should come after that history.

<sup>2</sup> That is, at the end of the Táríkhí Gházání; the only reason that it should not be so transferred, is the epigraph to the Táríkhí Oghúz, which states that it is to be followed by the history of Khitá.

some part of the Táríkhi Gházání<sup>1</sup>; but from some unforeseen cause he discontinued the work. This I regretted, as I had hoped that, merely as a transcriber, I might have assisted him in his labours, and thus have caused the whole of the extant portions of the Jámi al Tawáríkh to appear before the public with the advantage of his unexampled acquirements as a scholar and a critic. Under these circumstances, my late respected friend the Earl of Munster requested me to undertake an English version of the recently discovered Persian MS. which is the subject of these remarks, for the Oriental Translation Committee. Gratified by the honour he had conferred upon me, I proposed my translation to the Committee, and it was accepted. I have not proceeded so rapidly with this work as I could have wished, the difficulties being greater than I had anticipated; these, however, will not, I trust, be insurmountable, and will only delay the publication of my translation. I cannot conclude without mentioning that Mr. Bland has materially smoothed my path, by lending me, with his usual kindness, an excellent MS. of the Táríkhi Gházání, which, as it was written nearly a century previous to the date of the MS. of the East India House, cannot fail to afford me the greatest assistance.

Believe me, my dear sir,

Very truly yours,

WILLIAM H. MORLEY.

18th October, 1842,  
15, Serle Street, Lincoln's Inn.

<sup>1</sup> Collection Orientale, tome 1, contenant L'Histoire des Mongols de la Perce. Fol. Paris, Imprim. Roy. 1836.



ART. XXX.—*Memoranda on the Rivers Nile and Indus,*  
by CAPTAIN T. POSTANS.

(Read April 8, 1843.)

HAVING had the advantage of journeying through the Deltas, and for nearly 400 miles up the two famous rivers of Asia and Africa (the Indus and the Nile), I venture to record briefly my general impressions on these two grand features of nature.

The Nile runs in a direction directly contrary to that of the Indus, and has its source in the most torrid regions of the globe, whilst the Asiatic stream rises in perpetual snow. The climates, therefore, are directly reversed; yet, passing through the same degrees of latitude, there are in some portions of the countries penetrated by the two rivers very curious coincidences in productions and climate, to which we will refer hereafter.

The Nile, in its greatest size and volume, falls very far short of the magnitude of the Indus; its rate of progress being, moreover, not more than two miles and a half per hour, or three<sup>1</sup> at its most rapid season; whilst the Indus rushes on at a general rate of five miles, and in the height of its inundations does not average less than between seven and eight. The course of one river is uniform and quiet, that of the other liable to sudden overwhelming torrents. I have seen the Indus throw an iron steamer of sixty horse power on its banks, and render it as totally unnavigable as a common boat for a distance of several miles, and all within the space of a few minutes; when the flood would again assume its usual current. The season of inundation of the Nile begins when the Indus is usually at its greatest elevation, the comparative rise of each river being difficult to determine, for the Indus lying in shallow banks overspreads the surrounding country. At Bukkur, where the Indus is confined by rocky barriers, an *Indus-meter* might be applied with advantage. Lieutenant Wood's admirable reports on this head however are very full and satisfactory.

The bed of the Nile has the great advantage over the Indus of being deep and uniform: the soil through which it passes is formed, or materially so, by its own deposit, the argillaceous nature of which does not appear to render it liable to be acted upon, to any great extent, by the current. In the higher parts of the river,

<sup>1</sup> Bruce says three at its greatest velocity.

moreover, (that is, from Cairo to the Cataracts) it is confined by rocky barriers, with often a very small extent of soil<sup>1</sup>, and at other times, the limestone hills<sup>2</sup> alluded to, hedge it in completely for many leagues. The Indus, on the contrary, passes through light and shifting soils, mostly composed of fine sand; or constantly carries with its rapid current an immense portion of its banks; and thus the main stream is continually shifting and its bed undergoing complete alterations. The navigation of the two rivers is thus directly opposed: the facilities on the Nile are so great as to admit, at all seasons and at all times, of the largest boats traversing the stream for nearly 500 miles, without any risk of interruption, whilst on the Indus the highest flood is that alone which admits of extensive navigation, and even then the most experienced pilots are baffled in keeping to the clear channel. During the withdrawal of the inundations the Indus is beset with difficulties, and sand-banks are encountered at almost every turn. The Nile, on the contrary, sinking to its ordinary level, still admits, in a sufficiently deep and wide channel, of plenty of water and easy navigation. The Nile, however, must fill very rapidly at times, for I saw between Beni-souef and Cairo, in November, a large boat high 'and dry inland, at least one quarter of a mile from the then western bank of the river; she had all her rigging standing, and my boatmen expressed the greatest anxiety not to ground away from the deep channel, as in such case they might not get off again.

The craft employed on the two rivers are totally dissimilar, and it is extraordinary to observe that where there is the least danger to the navigation, (whether from the violence of the stream, depth of water, and absence of fierce tornadoes,) there the boats are of the strongest and most serviceable description. Those employed on the Nile are apparently adapted more for rough sea than river work, being built exactly on the model of shore-going craft, keeled and not flat-bottomed, except that the rudder is too large, and rather more exposed to violence than would be consistent with marine purposes. Those in common use on the Indus are, on

<sup>1</sup> Sir G. Wilkinson says, "The average breadth of the valley from one mountain range to another, between Cairo in Lower and Edfu in Upper Egypt, is only about seven miles, and that of the cultivable land, whose limits depend on the inundation, scarcely exceeds five and a half."—Ch. iii., p. 216.

<sup>2</sup> It has been suggested by a competent geologist, that there is a great affinity between the formation of these hills and the whole of the Red Sea and Arabian Gulf formations, and those to the westward of the Indus; the geology of both countries however is a neglected point, and I offer the remark *en passant*.

the contrary, flat-bottomed, of the most frail and light description, and fastened together so loosely, and composed of such unserviceable materials as to go to pieces the moment they are exposed to the least violence; a few minutes on the sand-bank, with a strong breeze, soon settles an Indus boat. (See Wood's Report.) A much larger kind of boat is used on the Nile than on the Indus, often carrying 1500 ardebs, about two hundred tons English, and measuring eight or ten feet water. The jumpti, or state barge of the Ameers, used in the lower part of the River Indus, will probably draw about three feet to three feet and a half water. The traffic on the two rivers is immeasurably dissimilar. The Nile, in every part of its stream which I have visited, is alive with boats of every size and description. This is, however, to be attributed to the populous country traversed by the latter, strikingly contrasted with the jungly and depopulated wastes through which the Indus flows, and where you may often journey for days, without seeing a sail or sign of human industry. Tracking on the Nile is little resorted to, the winds are generally up or down and shift regularly, so that the boatmen always wait for a fair wind; the craft are too unwieldly, moreover, for tracking by manual labour, though the banks of the river are admirably suited to it. On the Indus it is impossible to track during the inundation from Shwan upwards; the circuitous route by the Arral and Narrah rivers is pursued to avoid the main stream.

As my experience confines me on the Indus to that lower portion of the river lying between Bukkur and the sea, I shall offer a few remarks on the comparative state of the country on its banks with that of the Nile for about the same distance, viz.: from the sea to the cataracts. The soil of Egypt is said to be the gift of the Nile, and certain it is, that beyond its immediate influence, the Libyan desert on the one side, and the rocky barriers of Arabia on the other, present insurmountable obstacles to fertility of any kind; yet is Egypt one of the most productive countries in the world. From Cairo, upwards, the portion of soil cultivated is in most places extremely small<sup>1</sup>, except in such valleys as that of Siout and Manfaloot, where a greater expanse admits of greater deposit of tillable land, thus offering a striking contrast to the Indus, where there is an unlimited extent of soil, and where population and industry are alone required to carry its waters over the whole valley, even to the foot of the distant mountains which surround it on the west-

<sup>1</sup> See former note.

ward. On the Nile, on the contrary, the height of vegetation is in juxtaposition with perfect sterility. On looking along the eastern bank of the Nile from an eminence, the most beautiful verdure is marked by a clearly defined line of the great desert, and has a most singular effect. In one country, however, the value of the rich gift bestowed by nature is truly estimated; in the other it is almost unknown. The Nile does not flow in vain through Egypt; not an inch of its rich, though comparatively limited soil is left unappropriated, whilst on the larger river the gift is totally neglected, and all the unbounded capabilities of the country are totally disregarded. Were the reverse the case, there can be no doubt from the unlimited extent of soil capable of being cultivated, (whether in the Delta or higher parts of Sindh,) and the facilities afforded for leading the waters of the Indus to any extent from its banks, that the latter country would not only rival but far surpass Egypt in productiveness. The Indus flows through plains of immense extent, with scarcely any deviation of soil; the desert being only that portion where the waters of the river do not extend, though possessing exactly the same description of surface soil. The gradual slope of such plains from the banks of the river admit of unlimited irrigation<sup>1</sup>, and as if to point out to man the value of her gifts, the Indus constantly overflows large tracts of land, without, however, nourishing other vegetation than that of luxuriant jungles.

The soil of Egypt, though of such partial extent (except in the Delta), is, however, far richer than that of the Indus, as shown in its dark, loamy texture, and the power it possesses of yielding three crops annually; whilst in Sindh the soil will not bear more than one crop (of juwaree or wheat) biennially on the same spot.

The deltas of all large rivers are generally their richest and most productive portions. So it is with the Indus and the Nile, but particularly with the latter. Large towns, abundant population, and extensive plains, richly cultivated, attest the extreme richness and productiveness of this portion of the Nile. The Delta of the Indus yields also more than any other portion of Sindh, and is proportionably more thickly populated, though, if we except Tattah, at its apex, there are no places of unusual size and importance. In the Delta of the Nile large canals, faced with masonry towards their embouchures from the river, are of frequent occurrence. Here

<sup>1</sup> The foot of the Bolan Pass, 150 miles in a north-westerly course from the river, is said to be about 700 feet above the level of the sea, from which it may be distant about 350, which would give, at a rough calculation, about two feet of fall per mile.

Mahomet Ali did not allow even forty-eight miles to intervene between the sea and the river. In nearly the same relative position on the Indus, the space of about fifteen miles would alone be required to be cut through, or rather an old canal to be opened, to effect the same object. The productions of Egypt have a great affinity to those of Sindh, particularly in that portion of the river where the latitudes agree, or nearly so; taking, for instance, Cairo upwards<sup>1</sup> and the upper portions of the river Sindh at Subzulkote, we find the staple grains, spring and winter crops, are wheat and dhurra (holcus sorghum, or the juwaree of India). The seasons for crops are precisely the same, the wheat being sown in November and December, and reaped in April, the dhurra being, as in Sindh, the great winter crop. Thus in sailing up the Nile during the month of November, the juwaree crops, which cover every cultivated portion of the river's banks, induce the belief that the traveller is on the Indus at the same season. This particular grain, however, obtains a far greater luxuriance in Upper Sindh than in Egypt. I have seen the stalk in the neighbourhood of Shikarpore measure sixteen feet, and one head weigh fourteen ounces avoirdupois. The dhurra of Egypt does not look half so fine. Barley, flax, hemp, tobacco, castor-oil, indigo, hennah, sesamum, cotton (exactly the same plant as is grown in Sindh), and sugar-cane, are peculiar to both rivers; esculent plants and melons of various kinds being sown in the spare corners of the grain fields. The bendy (egg-plant) and onions are the common vegetables of both. The larger trees consist of the date, mulberry, baubul, and acacia, (or, as it is called on the Nile, the acacia Nilus): this last attains great size in Upper Sindh. The date, in both countries, is a great staple of food, and cultivated accordingly; the season for gathering it, however, is somewhat later on the Nile, than under the same latitude of the Indus: limes and oranges are abundant in both countries, though more extensively cultivated on the Nile. The water kine, or buffaloes, are plentiful on both rivers; camels, mules, and donkeys are also abundant. The Nile and Indus are equally favourable to fowls, and villagers are abundantly provided with poultry. The almost total absence of any tree, except the palm, from Cairo upwards, is very peculiar, the mimosa Arabica being only occasionally seen, and then of a very stunted description, whilst the luxuriant jungles on the whole line of the Indus, through Sindh, attest the richness of the soil, and at the same time its total want of cultivation.

<sup>1</sup> Cairo is in 30°; Sukkur about 28°; and the extent of Sindh, N., is about 30°.

The condition of the mass of the people on both rivers appears to be much alike. The Arab villages are composed of the same rude and temporary materials as those of the Indus, being either of mud, flat-roofed, or of reeds<sup>1</sup>. The same apparent squalor and misery is observed on both rivers; the difference being, that I believe the Fellah of Egypt tills the earth for the ruler to reap the produce, who leaves him but a bare subsistence; whilst in Sindh the river yields in fish nearly all that is required for the maintenance of a scanty population, and the soil may be said to be secondary as a means of existence generally. The splendid buildings used as the manufactories of Mahomet Ali, which are everywhere to be seen on the Nile, tell only of his harsh monopolizing system, but do not prove an iota more than the jungles of Sindh, that the core is not rotten, and that the bulk of the population of the most productive countries in the world is not the most miserable. The same remark will apply to the large towns to be met with on the Nile, with an exterior of prosperity little sustained by a closer inspection. There is, in short, in Egypt a surface of prosperity which is totally false, and will not bear examination, for the whole system is forced and radically wrong, particularly as respects the working classes. An overgrown and useless military force, whose regiments are often stationed on the Nile, in villages which do not boast more than a dozen mud hovels, (I have seen a full band practising on a dung-heap near a village of this description,) machinery and improvements, only compatible with great wealth and an advanced state of civilization, eat into the marrow of the state, and the poor Fellah, or cultivator, whose condition in Egypt, as elsewhere, is the touchstone of the whole system, is ground to the earth to provide for the utter follies, to call them by a mild term, of the ruler who would fain be before his time. I will take, for example, whilst on this subject, one of Mahomed Ali's cotton manufactories, which I visited on the Nile, and a better proof could hardly be afforded of the hollow, forced system now pursued in Egypt. These buildings are exceedingly handsome stone edifices, which look strangely incongruous near towns probably composed entirely of wretched mud hovels. The machinery employed is exactly on the same model as that used in Europe, with the latest improvements, except that the power em-

<sup>1</sup> The Jutts of Sindh and Fellahs of Egypt, the cultivating classes of both countries, are in about the same relative condition. The Jutts, there is every reason to believe, are the aborigines of Sindh, converted to Islamism in, and subsequent to the invasion of Ben Cassim. The Copts, like the Jutts, are the most degraded of all classes.

ployed is by eight bullocks to a wheel, four wheels being used in each manufactory. Much is of course done by hand that at home would be performed by machinery. The division of labour, carding, spinning, &c., indeed, everything connected with the establishment, shows the most scrupulous care on the part of the superintendants, who are Arabs, principally educated by Europeans (Frenchmen). The raw material is collected in lieu of tax (a system generally adopted in the East of levying in *kind*): the whole of the labour is *forced*, and the rates paid are according to the work performed, in the first instance, and, secondly, according to the total expenses of the establishment for any given period. Thus, if the latter will admit of a sufficient profit to the Pasha, the rate fixed as a maximum is about one and a quarter pence per day<sup>1</sup> to each labourer for twelve hours' work; but this may be decreased according to the circumstances alluded to. The cloth, when ready, is sold by *force* to the merchant at about fifty per cent. higher than he could purchase the same imported. The texture is exceedingly coarse, and would be considered by us in India even as of very inferior quality. The accounts are kept by Copts, who have a separate office for the purpose. Such an establishment as the above employs about 1500 workmen, and can produce about 1000 pieces of cloth monthly. Such is a brief sketch of one of the Pasha's *improvements* and monopolies; having, obviously, the following results:—Oppression to the operative in *forcing* him to work at a rate inconsistent with his wants; in no country in the world can a man feed himself and his family for one and a quarter pence per day! Secondly, oppression to the cultivator, in not allowing him a fair market and profit on his produce; crippling also his energies, as he is taxed exactly according to his produce, and not according to the land he cultivates. And, lastly, oppression to the consumer, in *obliging* him to pay fifty per cent. higher for an inferior article, simply because it is of home manufacture, and the profits upon its production required by the ruler. There are sugar manufactories in Egypt, precisely on the same principle. Previous to the manufacturing system of cotton in Egypt, the whole attention was paid to the improvement of the plant; and had this been pursued, it would have acted with far different results; for it was found to compete with the American, and proved highly valuable; but Jumel, the Frenchman who superintended the cotton improvements of Egypt, being, like all the needy adventurers who make a tool of Mahomed Ali, anxious to fill

<sup>1</sup> 20 paras = to  $\frac{1}{4}$  a plastre, or 2 $\frac{1}{4}$ d.

his pockets at any sacrifice, projected the using the raw material on the spot, with the results to the country which have been seen. Thus it would appear, to sum up the comparative state of the inhabitants of Egypt and Sindh, that they suffer from systems exactly opposed to each other: the one being that of would-be improvement misplaced; the other, no improvement at all. The ruler of one country oppresses by ambitious and impracticable projects, those of the other by selfish gratification and total apathy as to the state of their people and country. But in both the wretched inhabitants may be said to starve in the midst of plenty; and maladministration prevents those great gifts, which nature has so unsparingly lavished, being adequately developed to the improved condition of their inhabitants. Egypt formerly fed seven millions<sup>1</sup> of people, and provided grain for exportation; now she with difficulty sustains two millions and a half. The inhabitants of Sindh live with difficulty in a country where the seed has only to be cast on the waters to be found after a certain number of days. Sindh could easily be made to yield sufficient grain for the consumption of Cutch and Kattywar, whose famines might be of seven years' extent, and still be supplied. The population of Sindh does not exceed a million, and these are barely subsisted.

The Nile abounds in fish, but it is not an article in such general use as on the Indus, where it forms the principal, and, indeed, the only food of a large proportion of the population.

The colour of the waters of the two rivers is very dissimilar. The Nile, during its inundation, changes from a blue tint to one of deep red, or rather brick-dust colour, probably induced by a great quantity of oxyde of iron, which is held in suspension; and hence its salubrity. The Indus is of a muddy stone colour at all times, but is capable of greater purity, after filtration, than the Nile, though it is not so wholesome. The water of the Nile certainly merits, from my experience, all the encomiums which the inhabitants bestow on their "beloved river."

To conclude. Were the policy of Mahomed Ali only exercised to a *certain* extent in Sindh, we should see that that country possesses far greater capabilities than any of equal extent on the Nile; and the boasted richness of Egypt would not only be rivalled, but in the course of time, far surpassed. The population of Sindh is far more vigorously disposed than that of Egypt, and, with a fostering and energetic policy, its jungly wastes would soon be made to

<sup>1</sup> Herodotus.



teem with the richest productions of the East. Measures are, it is to be hoped, in progress, which will tend to bring about this desirable end.

I have not had sufficient experience to enable me to draw any satisfactory comparison between the climates of the countries, Sindh and Egypt (as far as the distances agree); but I am inclined to believe there is a great similarity. The seasons are much alike, and are divided into the hot and cold, without any very marked gradations of spring and autumn; they agree in the almost total absence of rain, except in the Deltas. I should say the extremes were greater in Upper Sindh than in Egypt; thus, I have seen the thermometer at Shikarpore on the 5th of November, at  $40^{\circ}$ , and ice is by no means uncommon. In Egypt I never recollect it, though I was there during the coldest season. The Khamsin of the latter, can hardly however be so bad as the Simooms of the deserts of Sindh; in one they obtain only for fifty days, in the latter for four months, though the natives pretend that there is a Chehel-raz only of this trying blast. The thermometer, at Shikarpore, during the month of July is  $106^{\circ}$  to  $110^{\circ}$  in the shade; on board a steamer on the Indus, in the latter end of August last, it was  $106^{\circ}$  on deck under an awning, at 2 P.M., and it often reaches  $115^{\circ}$ . The Deltas of both rivers are noted for tremendous dews, and in Egypt with the additional disadvantage of fogs; the air in both is clear, (except in Sindh, where the loose drift sand is blown up, when the effect of a fog is produced,) and the skies cloudless.

Of medical statistics I can say but little; though I question whether, taken generally, Sindh is not healthier than the valley of the Nile, as witnessed in the awful plagues which periodically visit man and beast; the last visitation whilst I was in Egypt, killed 140,000 horned cattle. The inhabitants certainly have a much healthier and more robust appearance in the former, particularly the northern part of the river, and are far more active and capable of fatigue than the river Arabs. The boatmen and fishermen of Sindh are a remarkably muscular and finely formed race. The same description of climate however acts very differently on the disposition of the inhabitants of both countries. In Egypt, the people are wonderfully cheerful and laughter-loving, the Nile resounds with the songs of the boatmen, and five or six Arabs cannot collect without the "darabooka," and a dance of the most grotesque, though not always of the most decent description. Drollery is inherent in the modern Egyptians, as may be witnessed in the buffoons who daily exhibit at Cairo and throughout

the country; but in Sindh, the people are morose, and, if not sullen, at least very dull and melancholy in their general behaviour; they have the advantage however of decorum and propriety; a Sindhian of the lowest order even would be horrified at the total want of decency and disgusting laxity of the inhabitants of the valley of the Nile, only to be rightly understood by those who are acquainted with the vernacular. I should imagine it impossible to produce a more outrageously indecent people than the middle and lower orders in Egypt.

It can hardly fail to strike the traveller that there is a great similarity in these two rivers, between the ports by which both are accessible from the sea; Karachee is to the Indus what Alexandria is to the Nile, and in our hands who is to say that increased population, the result of good government, shall not hereafter bring about such a revolution in the state of the country watered by the Indus, as to make Karachee the Alexandria of the Indian Ocean?

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ART. XXXI.—*Travels beyond the Himalaya*, by MIR IZZET ULLAH. *Republished from the Calcutta Oriental Quarterly Magazine*, 1825.

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INTRODUCTION.

[THE Royal Asiatic Society having determined to reprint occasionally papers which may be considered of interest, or may contain useful information, and which, although in print, are not generally procurable in this country, have been pleased to select in the present instance a translation made by me many years ago, and published anonymously in one of the periodical publications of the Calcutta press. At the time of its publication, the subject was entirely new. It has lost something of the gloss of novelty by the more comprehensive journals which have since appeared; but it still contains information regarding parts of Turkestan and Central Asia, which is not derivable from any better source, as the countries have not been visited in modern times by European travellers. In what has also ceased to be novel, the observations of the traveller are not without interest, as they relate to a political state of the countries traversed, which had undergone a change for the worse even when Izzet Ullah's steps were followed by Moorcroft and Trebeck, and which has become still further deteriorated by the anarchy that has so long distracted Afghanistan. The journal of Izzet Ullah is in most places little more than a mere itinerary, and it is so far more serviceable to geography than to history; but he occasionally extends his notes so as to furnish materials for the latter.

Not being in possession of the manuscript which I originally consulted, it has not been possible to make any alteration from that source. I have, however, compared the translation with a different copy of the original, which has been lent to me by the Hon. Mountstuart Elphinstone, and from it I have made a few alterations and additions. The changes are not of any great moment, and would probably be equally justified by my original text, as except occasionally in the names of places, there does not seem to be any material difference.

Some of the notes have been omitted or altered to suit our better knowledge of the countries derived from the travels of Burnes, Moorcroft, Wood, and Vigne.]

H. H. WILSON.

IN the year 1812, Mir Izzet Ullah, a servant of the enterprising and enlightened traveller Mr. Moorcroft, was dispatched on a preparatory tour to those countries which Mr. M. purposed to visit at a favourable period. Izzet Ullah travelled from Delhi to Kashmir, from Kashmir to Tibet, from Tibet to Yarkand, from Yarkand to Kashghar, thence to Kokan, from Kokan to Samarkand, thence to Bokhara, Balkh, and Khulm, and from Khulm to Kabul by way of Bamian, whence he returned to the plains of Hindustan. In this tour, he kept a journal of his stages, and the objects that attracted his attention; and being a man of intelligence and observation, collected much valuable information, although not of so detailed or precise a description as to anticipate the value of those accounts, which we may expect from the enquiries of our countryman. Several copies of Izzet Ullah's tour were made and distributed, and one of them through the kindness of a friend<sup>1</sup> having come into our possession, we have thought a translation of part of its contents might not be unacceptable to our readers; the tract of country over which the traveller passed, is in great part unknown to Europeans, and the details will at least have the merit of novelty to recommend them.

We omit the first part of Izzet Ullah's travels from Hindustan through Kashmir, and begin with his route from

#### KASHMIR TO TIBET.

The last station in Kashmir is called *Sonamurg*. (سونامرگ) It is a village of some fifty or sixty houses<sup>2</sup>; the road is difficult and rocky, so as to be impassable to a mounted traveller. The road is on the right bank of the Sindh, and the village is on the same: the ruins of a Serai, erected by Ibrahim Khan, are here met with.

- North-east from *Sonamurg*, five cos<sup>3</sup>, is *Baldal*, (بالتال) an uninhabited station, with the exception of one house for the accommodation of travellers: along the skirts of the mountain on the right of the road runs the Sindh<sup>4</sup>; and its sources are not far off; the

<sup>1</sup> Henry Wood, Esq., Accountant-General, Bengal.

<sup>2</sup> When visited by Moorcroft in 1822, the number of houses was reduced to five or six. Vigne's enumeration is two or three. According to the former, *Sonamurg* is so called from the "golden pheasant," which is in the neighbouring woods. The latter explains the name to import "the golden hill," from the number of pretty flowers found there in the spring.

<sup>3</sup> The cos of Izzet Ullah generally corresponds with the mile of Moorcroft.

<sup>4</sup> The source of the Sindh is in the mountains about Amara-nath. (Vigne.) In

road is broad and practicable. *Báldál* is within the limits of Kashmir; but close to it on the east runs a mountainous elevation which separates Kashmir from Tibet; thenceforward the road is over mountainous and barren paths, but abundant in springs.

*Matayan*, (متایین) ten cos east by north from the last station, is a village on the right bank of the river of Little Tibet: the inhabitants are mostly Musalmáns of the Suni sect: it depends on Tibet, and the Tibetan language here begins to be spoken.

After leaving *Báldál* about four gharis, the road ran over the top of the mountain, and was practicable enough: on the descent it lay under unmelted snow for about an arrow's flight. One cos from thence on the right of the road, and on the summit of a hill, two large blocks of stone were observable: they say there were two brothers of the race of giants, who in former times disputed about the right to the springs here, and they at last fixed these stones to denote that half the water belonged to Little Tibet, called *Balti*, and half to Kashmir. One brother was named *Wuga*, (وگا) and the other *Sugan*, (سگین) hence the place is called *Wugasugan*, and to the present day these *Deos* are said to be the respective guardians of the several portions of the water. In short on this spot arise several springs, half of which flow to Tibet, and half to Kashmir; for whilst hither it had been a continued ascent, the road hence began to descend, and consequently the mountain streams following the course of this declivity, run partly on one side, forming the *Sindh* of Kashmir, and on the other they flow towards Tibet, forming the river of that country. The river of Tibet<sup>1</sup>, after leaving that country, runs by *Muzaferabad*: below *Muzaferabad*, one cos, it unites with the river of Kashmir, and the combined river descends to the *Panjab*, under the name of *Jhelum* or *Behut* (بہت). All the water flowing to Tibet from the *Wugasugan* mountain takes a north-eastern direction as far as to *Puskyum*, when it turns off towards *Muzaferabad*.

his map, the road runs here south of the river, or along its left bank. The *Sindh* runs westward, passes north of *Srinagar*, the capital of Kashmir, and falls into the *Behut*, above eight miles to the north-west of it.

<sup>1</sup> This account of the course of the Tibetan river is not correct, but the error is excusable, and no means of correcting it existed at the time when the notice was written. The river that joins the *Behut* below *Muzaferabad* is the *Krishna-gangá*, the source of which was with equal inaccuracy placed within Kashmir, whilst it rises in the mountain skirting the *Steppe of Deosu*. The river of Tibet, or rather the *Dras* river, joins the great southern branch of the *Indus*.

*Panderás*<sup>1</sup>, (پندرأس) two cos east, is situated on the left of the river of Little Tibet. A kind of crow with red beak and legs is found here, which is considered by the Mohammedans as lawful food, and eaten accordingly; there is also an animal which resembles a jackal, called, in the Kashmirian language, Daruwan, (دروون) which is held unlawful; its skin forms a warm clothing, and its flesh is very beneficial in leprosy. The road along the river of Tibet is good.

*Dirás*<sup>2</sup>, (دِرأس) east, four cos, is the name of a small Pargana; the villages are as close to each other as if they were the divisions of a city, and this Pargana itself may be considered as one town. The governor is entitled the *Kehrpun*, (كهرپون) and is sent from Tibet. The houses of this country, hitherward from Matayan, were all in a ruinous and deserted condition, a number of persons having been carried off the year before by a party of people called Dardi, (دردی) an independent mountain tribe<sup>3</sup>, three or four marches north from Diras, who speak the Pushtu as well as the Daradi language: their religion is not known. It is said to be a journey of ten stages to Badakhshan from Kashmir, through the country of the Dardis. The invaders were about 300, and they carried off 250 persons. The prisoners they make in these predatory incursions they sell as slaves. After this transaction a party of matchlock men were stationed at Diras, by order of the ruler of Kashmir, under the son of Málik Ahkám, who holds half the revenue of the country from Matayan to Diras, in jagir from the Raja of Tibet<sup>4</sup>.

<sup>1</sup> Moorcroft calls it also Pandras, but, as noticed in his *Travels*, vol. ii., p. 93, it is probably Payín or Lower Dras.

<sup>2</sup> In the former publication this was written Diriras from Izzet Ullah's vowel marks as they appeared in the manuscripts employed. Mr. Elphinstone's copy has

however Dirás, دِرأس, and all the travellers agree in calling it Dras. It is also named Him-bab, "the gate or pass of snow," (Moorcroft,) and is 9000 feet above the level of the sea.—Vigne.

<sup>3</sup> The Durds of the present day, Daradas of the Sanskrit writers, and Darades of the classical geographers.

<sup>4</sup> Moorcroft mentions that the lands (or rather perhaps the revenues) of Dras were the joint property of the Raja of Ladakh, and the Malik of the neighbouring frontier of Kashmir, under an ancient grant from the Raja. The Maliks of Kashmir were officers holding lands on condition of defending the passes. When Mr. Vigne visited Dras, a small fort had been erected there, garrisoned by Sikh soldiers.—Vol. ii., p. 393.

*Kerchho*, (کرچھو) east by north fifteen cos, like the former is a Pargana, full of contiguous villages: the houses are of wood, and neatly built: the inhabitants are mostly Mohammedans of the Shia sect. There are two lofty mountains on the road, between which is an open halting-place for caravans eight cos from Diras: there is also a spring of water: after passing between these heights, there is a small village called Bunduk, and then comes Kerchho. Onions abound on the mountains: the cows here have tails as long as horses, and the crows are black and white.

*Tirisun* (تیرسپون) is two cos from the river on the left bank.

*Pashkam*<sup>1</sup>, (پشکم) east by north five cos, on the left of the river, but three cos distant. The river here leaves Little Tibet. The people are Shias, under Raja Mohammed Ali Khan, subject to the Raja of Tibet, and married to his sister. His sister is in like manner wedded to the Raja, and both ladies have adopted the religion of their respective husbands. Pashkam is a pleasant spot, abounding with water, and poplars, and willows. A good road leads to the village of Minji, two cos from Tirisun.

*Mulbi*<sup>2</sup>, (ملبی) east by north six cos: near this is a rock like a mountain, and on it is a castle, and a residence of the Lama, and many figures are sculptured<sup>3</sup>; there is also a figure, carved of stone, near the village; the name of the image is not known. Here are the remains of a Serai, founded by Ibrahim Khan: part of the population follow the religion of Tibet, and there is a small establishment of Kaluns (Ghelums), or Tibetan monks, to which the land between Mulbi and Diras chiefly belongs<sup>4</sup>. Barley and wheat are reaped here about the end of September.

The next stages in the same direction are the villages of *Hanskot*, (حنسکوت) six cos, and *Lamayuru*, (لامایرو) five cos; the latter is a station of the Lamas: there are other villages in the vicinity. We then come to *Khalack*<sup>4</sup>, (کھالک) five cos from the last; beyond this the road ran along the skirts of the mountains, and was very rugged and uneven: in some places chasms had been rendered passable by

<sup>1</sup> Moorcroft calls the place Pushkyum; the river means the main stream of the Indus, which here turns at a sharp angle from a westerly to a northerly course.

<sup>2</sup> The Molbi of Moorcroft, who also describes the sculptured figure on the rock.

<sup>3</sup> Moorcroft mentions that the number of Gelums and Chumas, monks and nuns attached to the establishment at Lama-yuru, is said to be 500.

<sup>4</sup> Khalets.—Moorcroft.

stones laid across, but the whole was impassable on horseback. The river of Tibet runs past Khalach; it is the same with the river of Attek (the Indus), and runs from the north-east to the south-west; the stream is said to unite with the river *Shayuk*, (شایوک) which rises in a mountain between Tibet and Yarkand: the river here has no particular name, but is called *Sampo*, (سانپو) signifying in the language of Tibet, the great river. A wooden bridge is built across it at Khalach, which is on the right bank.

Continuing the road, we pass through a country abounding with various kinds of fruit, apples, apricots, pomegranates, and other sorts: the road is uneven, but the hills are not of great elevation. At the distance of two cos from Khalach is Nur-Ullah<sup>1</sup>; (نورالد) from thence, three cos, is Himchi; (هیمچی) and three cos further is Saspul<sup>2</sup>: (سسپول) one road runs along the bank of the river. In this country is the wild ass (or horse?)<sup>3</sup>, the flesh of which is a great remedy with Yunani physicians. This is its native country. From hence, at the distance of two or three cos, is a large village called Nima, (نیمه) and at a little distance Buzgo, (بزگو) whence a short and good road leads to

LE (لی) a populous city, the capital of Tibet, and always intended by that term or Tibet, when it is applied to the city. Fruit trees are few, but willows about it are plenty. It is situated about a cos from the right bank of the Sampo: the road to it is good. There are several villages in the intermediate space between it and the river, and along the latter in its vicinity. The people of the place call the country Ladagh. (لداغ) In Kashmir they called the country Buten, (بطن) and the people Bot; and in Persian and Turkish the country is called Tibet, the word Tibet signifying in Turki *shawl-wool*<sup>4</sup>, which is procured here most abundantly, and of

<sup>1</sup> Moorcroft calls it Sneurla, but adds, that the Kashmirians call it Nur-ullah.

<sup>2</sup> These are the Himis and Saspuleh of Moorcroft.

<sup>3</sup> This is the kiang, which Moorcroft has still left undetermined, though it seems to be allied to the quagga.

<sup>4</sup> According to Klaproth and Remusat, it is derived from *Turfan*, the name of a people described under that denomination by the Chinese historians of the sixth century, as occupying the countries bordering on *Shu-chuan* and *Shen-si*; this word may be read, according to Klaproth, *Tu-po* or *Tu-bo*. It seems not unlikely after all, that *Ti-bet* is nothing more than a modification of *Pot* or *Bot*, which according to Csoma Körösi is the native appellation of both the country and the people.—Geographical Description of Tibet, *J. A. Soc. Ben.*, April, 1832.



the finest quality. A sort of barley, resembling wheat, grows between Matayan and Diras: cotton also grows there. Beyond Diras wheat and barley both occur, but no cotton: the wheat is not reaped there till the end of December, but about Lé it is gathered in October; there is but one harvest in the year: very fine turnips are cultivated at Lé. Rice and jawar, and chenna are never sown. From Matayan to Lé the water is bad, and engenders asthma and goitre; the latter in Hindi is called *Gilher*: it does not seem prevalent, however, in the town of Lé; but shortness of breath, caused by the water, is very general. I was affected in this way very severely, in consequence of which I abstained from drinking the water, and drank tea only, when the complaint speedily left me. The water of the Sampo is good, and along the valley formed by its course, or on the heights bounding it, wherever the springs that supply the river arise, villages are met with. The people of Tibet eat chiefly *Tulfan*, that is, *Setu*, (the meal of parched grain,) boiling it with meat, so as to form a thick kind of broth. Men of rank eat rice. They all wear a coarse cloth made of sheep's wool, and the poorer classes in the winter wrap themselves in the skin. They wear very high black caps, the top of which falls down and hangs over one ear; shoes of undressed hide, within which they sew woollen cloth, that comes up to the middle of the leg; their hair is plaited like that of women, and falls down in a braid behind; they shave the beard and preserve the mustachios; the lower part of the tunic is like that of the kabá, (it is straight and scanty,) whilst the upper part or vest is full (and folded); it is all in one piece. The jama, or tunic is made of black or coloured woollen cloth (pattu)—the women wear turquoises, emeralds, and pearls in strings pendant from the top of the head to the edge of the tunic. The country yields but little profit, so much that owing to the scanty soil and crop, the poorer people have the revolting practice of one woman being married to several brothers, the children being all supported by the elder. This usage is contrary to the established religion. It is also allowable here for the eldest son, if he pleases, to exclude his own father from the possession of the property, and to cut off the other sons from any share. The revenue of Lé is five thousand Kharwars of Kashmir. The Kashmir Kharwar is equal to sixteen Tereks. The ruler has no claim to any part of the crops, but derives his income from a tax on the head of each house: he levies one or two rupees a year, according to the ground, but this is not determined by the begah or jerib, but the land is divided according to the water; that is, they calculate the proportion of water required daily

for a mill or half a mill, and then estimate the daily consumption of it in the irrigation of the land in that ratio.

The houses are of stone or unburnt brick ; the beams are of poplar wood ; the dwellings are of three or four stories, and Lé contains a thousand such : the population consists of Tibetans and of Kashmirians : the Mohammedans are of both the Shia and Suni persuasions. Merchandise pays duty so much a horse load, and four rupees are charged on a load of shawl-wool, when exported to Kashmir ; no duty is levied on it when imported into Tibet from other countries : a duty of four rupees is charged on every terek weight of Kashmir shawls, when exported to Yarkand ; eight hundred horse loads of shawl-wool go annually hence to Kashmir, each horse load weighing about twenty-eight tereks. The wool is obtained from the hide of the goat, but is distinct from the hair : the original wool of Tús is yielded by a kind of deer. Tea also pays a small duty. Shawl-wool comes to Lé from Rodok and Cha-yin Thán : the former lies east by south from Lé, and is a dependency of it : Cha-yin Thán is the name of a district, the chief city of which is named Gerduk. It is fifteen stages east of Lé, and belongs to Lassa. Lassa is a celebrated city east of Lé two months' journey : the chief of it is the chief of the Lamas ; his name is not known. He has been obliged within the last fifteen or twenty years to appeal to the power of Khatai, to protect him against the encroachments of the Gorkhas.

There is one mosque in Lé, to the Imam of which every load of merchandise pays one júd. (جود) It was founded by Ibrahim Khan, one of the nobles of the Mogul Court, at a time when the Kalmaks (قلماق) had got possession of the city, and the Raja of Tibet had recourse to the Sultan of Hindustan for succour. Ibrahim Khan, who was sent to his assistance, defeated the Kalmaks, and restored the Raja ; who in consequence adopted the Mohammedan faith, and signed a treaty, acknowledging himself a vassal of the empire. He was honoured with the title of Raja Akabet Mahmud Khan. The Hakims of Kashmir still address the Raja of Tibet by that designation, but the Raja in a short time returned to his original faith ; he continued to profess indeed a sort of subordination to the Governor of Kashmir, but paid tribute no longer. He coins the júd in the name of Mahmud Shah ; twenty-four júds make one rupee. The Raja of Lé sends annually a contribution or charitable donation to the Guru Lama of Lassa. The Hakim of Kashmir takes care to be on good terms with the Raja of Tibet,

because the shawl-wool comes from thence, and if the intercourse were interrupted, the weavers of Kashmir would be out of employ, by which he would lose a duty of ten lakhs a year. If this were not in his way, the country might be easily overrun, as the people are a very spiritless race. I did not meet one individual armed during the whole of my stay, although they keep guns and other weapons in their houses. Murder and robbery, violence and bloodshed are unknown. When two Tibetans quarrel, the one who finds his anger becoming outrageous, chokes himself by filling his mouth with clay; or it is not unusual for either to bare his head, and present it to his opponent, exclaiming "Strike," because in fact whoever gives the first blow is subject to a fine of three rupees, or six rupees if blood be drawn. If one strike another with a sword, he is tied to a large stone, and dressings are applied to the wounded man at the expense of the aggressor, according to his circumstances. If the wounded man die, the murderer is thrown into the river, with a heavy stone tied round his waist. In short, they are a very mild race, disposed to offer injury to no one, and are free from religious intolerance. They marry their daughters to Mohammedans, and do not object to their adopting the faith of their husbands; if the women wish, they are at any time allowed to resume the faith of Tibet. Four or five hundred mounted men might plunder the whole country. The gunpowder made here is very famous. Mines of sulphur are found about three stages from Lé. Saltpetre is also produced by the soil; and excellent charcoal is abundantly prepared from a sort of timber that grows upon the mountains, the Persian name of which I am not acquainted with, and I had no opportunity of seeing the wood.

When a son is born to the Raja, the Raja abdicates, and the ministers govern in the name of the prince. There are three principal officers of government: one is called Kalun, who acts as deputy; the second is the Chaghut, the treasurer or steward; the third is the Maghu, (مغھر) or commander of the troops<sup>1</sup>. At this time the Kalun is perfect master of the supreme authority, and the Raja takes no part in the affairs of state; the name of the Raja is Chhatendruj. Every person in this country makes one of his sons a Lama; that is to say, one who forsakes the world. *Lam* in Tibetan means "road or way," and *Lameh* he who shows the way. The females of this order bear the name Chuma, (چومہ) the meaning of which I do not know; neither the Lama nor Chuma

<sup>1</sup> Moorcroft calls this officer the Banks.

ever marries. The Lamas are the spiritual preceptors of the other classes of people. I cannot offer any account of the religion of the country, not understanding the language, nor meeting with any Lama of intelligence enough to explain it. I was also advised by Khaja Shah Nias<sup>1</sup> not to make any particular inquiries upon the subject, as my proceedings were regarded with some jealousy by the chief authorities. I could only, therefore, pick up such accounts as the Mohammedan residents of the place were able to give me. The national faith is called *Buddha*, acknowledging God and the prophets. The temples of their idols are not constructed for their religious worship, but for the preservation of the statues of their most eminent teachers and Lamas, the sight of which is proper<sup>2</sup>. Accordingly, when any Lama or person of that description dies, they carve his image upon the tomb in which his ashes, after the body is burnt, are buried. Some of the images are said to represent some prophet, who was a friend to their progenitors, and is still living. From this it appears, that the prophet is no other than Khajeh Khizr (Elias). Some say that these are images of a prophet who was taken up to heaven, and is still alive; and these are therefore representations of Hazret Isa (Jesus). They have books which they consider Scriptural, and which contain moral doctrines and religious prayer, and enjoin the constant practice of devotion, truth, and clemency. Thus they say, If any one take from you your cloak, give him your vest also; and if he strike you one blow, bid him strike another. The adoration of idols is prohibited. With exception of burning the dead, the usages of these people are very conformable to those of Christians. They hold the flesh of horses and camels to be unlawful food, but eat goats, sheep, and kine. It is also unlawful to espouse more than one wife. Their chief festivals are held when the sun is farthest off, as on the 25th of December; and their new year begins at the same period as that of the Christian era. When taking an oath, they invoke the *Kanja Sum*, that is to say, the Triple God; *Kanja*<sup>3</sup> meaning *God*, and *Sum* three,—and they say that God is one; that of the other two, one is his Prophet, and the other his Word; and that the union of the three in their form of oath, refers only to one God. There is like-

<sup>1</sup> See an account of this person in Moorcroft.

<sup>2</sup> So Rubruquis states that "the Tibet monks acknowledge the unity of the Deity; and on being reproached with the use of images, replied, that these by no means represented the Supreme Being, but only such of their deceased friends as they particularly respect."

<sup>3</sup> More correctly Kon-chok, the chief of rarity. See *Csoma, Tibetan Gram.* "Why God is called Kon-chok."—*App.* p. 165.

wise an obvious affinity between the Lamas of Tibet, and the monks of Christian countries; as for instance, some time before my arrival, there was a Lama who had never slept in his whole life. An old man told me, he recollected having heard that many loads of the Gospel had formerly arrived in Tibet, but that no one copy had reached them entire, in consequence of which the custom of burning the dead, and other unchristian practices, and the belief in the metempsychosis were suffered still to subsist. At Lassa, however, the chief seat of the religion, the dead are not burnt, but buried. They acknowledge also, that their religious books were originally in some foreign language, from which they were translated into the ancient dialect of Tibet<sup>1</sup>. Such of the originals as yet remain are no longer understood by any one. I was not able to procure a single page of these books. The people here have a printed as well as a written character. Their months have no separate appellations, but are distinguished as first, second, third, &c. The years are reckoned after the *Turk* manner, comprehending a cycle of twelve years, each being named after an animal, as the *Suchkan II*, *Aud II*, or the year of the mouse, the cow, &c. The language of Tibet has much in common with the dialects of Turkestan and Kashmir: it abounds with nasals like the latter, whilst in articulation and accent it resembles Turkish, the hard *kaf* and *ghais*, and *shin*, and the Persian *jim* often occur. The dogs of Tibet are twice as large as those of Hindustan; they have large heads and long coats, and are very strong and fierce, and are said to be a match for a lion. They are good watch dogs at night. The cow of this country has a bushy tail, which forms the *chowri* used in Hindustan; it is of low stature, but is strong and sure-footed, and is much used as a beast of burthen in mountainous and difficult roads. The crow (or raven) is large and black. I saw very few of the celebrated Tibet ponies; the breed is originally from *Zanskar*, a part of Tibet, ten or fifteen stages from *Lé*; the price varies from twenty to seventy rupees. They are very fleet,

<sup>1</sup> They were in Sanskrit or Prakrit, the religion of Tibet having been derived from the plains of Hindustan. Nestorian Monks, however, were very long scattered over the countries north of Tibet, and some vestiges of their presence seem to be visible in the notions and practices of the people. Rubruquis found a number of Nestorian Christians in the states of Mangu Khán, and Marco Polo encountered them in various places between Badakhshan and China. The Goa Church also maintained missionaries in Tibet several years; twelve were sent at one time under Horace de la Penna, besides Desideri, Andrada, and others at different periods. They all agree in the resemblance between the religion of the Lamas and Christianity.

and sure of foot, and cross the loftiest passes with ease; they feed them with hay, or, if they wish to make them fat, they give them the grass called *Rushkeh*, fresh if it be spring weather, but dry at other seasons. A horse eats one júd of rushkeh a day. Instead of gram, they give the horses barley.

*Chaghan* is a favourite game in Tibet; it is played by two parties mounted, who attempt to strike the ball beyond two stones, and whoever does this nine times is victor<sup>1</sup>.

The want of an astrolabe made it difficult to determine the position of Lé; but from such observations of the star *Jeddi*, called by the Arabs the *Kuteb*, or pole star, as I could take, I judge it to be situate 37° 40'.

I left Kashmir on the 16th September, 1812, and after being twenty-one days on the road, arrived at Lé on the 30th of October. The distance is not more than one hundred and twenty cos, yet the difficulties of the route make it laborious and tedious travelling. It would not otherwise be a journey of more than four or five days.

#### FROM TIBET TO YARKAND<sup>2</sup>.

I left Lé on the 26th of October, and set off for Yarkand. The first stage is Sabu<sup>3</sup>, (سبو) five cos due east. A village dependant on Lé, five cos on the other side of the mountain, was the next halting-place, but without habitations.

<sup>1</sup> A particular account and drawing of this game as played in Tibet, are given by Vigne.—Vol. ii., p. 289.

<sup>2</sup> The latitude of Lé is now ascertained to be about 34° 10'.

<sup>3</sup> This part of Izzet Ullah's route is entirely new, as Marco Polo and the missionary Goetz, who visited Yarkand, both went by a different route, or through Badakhshan. The other missionaries who penetrated to Lé, turned off thence to Lassa. It seems probable, indeed, that a Russian officer preceded our traveller; the circumstances under which this occurred are thus described in the 26th Number of the *Journal Asiatique*—"In 1774, a subaltern officer of the Neugorod regiment of infantry, named Yefremof, was carried off from his post by the Kirghizes, and conveyed into Bokhara. The Atalik appointed him inspector of his seraglio, and afterwards obliged him to render military service, in which he rose to the rank of Yuz bashi, or captain of cavalry. Yefremof accompanied the troops of the Atalik in different expeditions to Samarkand, Mawra, and Khiwa. From thence he escaped to Kokend, Kashgar, and Yarkand, and penetrating across Tibet, made his way to Calcutta, from which place he returned to Europe in an English frigate. In 1782, he arrived at Petersburg, where he published a narrative of his adventures, with some description of the countries he had visited in his travels." Moorcroft and Vigne subsequently went part of the way, but only a few stages.

<sup>4</sup> Apparently this is what Vigne calls Ayu.

*Diger*<sup>1</sup>, (دگر) eight cos, east by north, is a village belonging to Lé. The road is very precipitous and difficult; the first three hours were a continued ascent; the last was a declivity. The snow was above a cubit deep.

*Akkám*<sup>2</sup>, (اشكام) north by east, three cos, a village of twenty houses on the left bank of the river Shayuk, and dependent on Lé. The source of this river is at Karakúrúm, as will be hereafter noticed. It runs into the river of Lé, and therefore contributes to the Attok (or Indus). It runs south-west. The road, after the descent from Diger, runs along a level, and is nothing but sand and rock. Before descending, a road runs north to Nobra, a place of some importance. In the summer time the road to Yarkand is by Nobra, for the lower levels are rendered impassable by melting of the snows. The governor of Nobra is named Khaga Tanzin; he is the father-in-law of the Kalun of Lé.

*Dakchudinga*, (دقچودنگا) north-east, seven hours, is a station amongst the rocks, on the right bank of the Shayuk. The road ran along either bank of the river until it was interrupted by projecting blocks of stone, when it was necessary to ford the river, and proceed along the other side until similarly impeded in this manner. In the course of the march I crossed it five times, the water up to the horse's girth. At this time, the 31st of October, icicles formed on the horse's mane. There were few places on the route where grass and wood were procurable.

*Chamchár*, (چچار) north-east, four hours, on the right bank of the Shayuk—four fords on the route, one of which was very dangerous. The road was very uneven and rugged. There was plenty of wood, but scanty forage.

*Chong Jangal*, (چونگ جنگل) north-west, nine hours. A stage on the right of the Shayuk. On the opposite side a small stream flows into the river, in the neighbourhood of which wood and forage were plentiful. We passed two fords near the station. On the left bank were three or four houses belonging to the Lamas, hence called Lama Kasht, or village. Beyond this place there is no habitation whatever. Chong, in the Turkish language, means much; Jangal has its usual sense of thicket<sup>3</sup>.

<sup>1</sup> Jugur of Vigne.

<sup>2</sup> Urkum of Vigne.

<sup>3</sup> The use of Turkish words throughout the rest of the Journal, marks the extent to which this race must have encroached upon Tibet.

*Chong Uldag*, (چونگ اولانگ) north, four hours, a station on the right bank of the river, from whence the road runs between perpendicular mural precipices. The road itself is sandy and rocky.

*Dong Ba-ilak*, (دونگ بايلاق) north, nine hours, on the left bank of the river: the fords were numerous, not fewer than eleven. After six hours' travelling, we came on our left to a rock of marble, which extended for a gunshot, that terminated in a striped rock like Sulimani stone. There are several *toshguns*, or halting-places on the way, where fuel and grass may be obtained; one of these, two hours on this side of the station, is called *Keftor Khaneh*, or the pigeon-house, consisting of small excavations in the rock, like dove-cotes.

*Mandalik*, (مندليک) north by east, ten hours, on the left hand of the river, abounding with fuel, but scanty of fodder. Here begins the *Esh*—this is a Turkish word, signifying Smell; but, as here used, it implies something, the odour of which induces indisposition; for from hence the breathing of horse and man, and especially of the former, becomes affected. The road is sandy and rocky, running along a valley; we had to ford the stream eight times: there are several halting-places on the way, at most of which fuel is plentiful, but fodder scarce. The range of rock ceases in a high pass before coming to the end of this stage; but rocks and mountains extend along the right bank.

*Yartobe*, (يارتوبي) north by east, five hours on the right bank.

*Kotak lak*, (کوتک لک) north, five hours. This is on one of the feeders of the Shayuk, which river here loses this appellation, and is called the *River of Khamdan*. Wood is plentiful here, but is burnt green. It is provided here for the next stage. The smell is very oppressive. Flints are found at this place, as well as small agates and blue Sulimani stones. The road continues in a valley between mountains, and is intersected by frequent torrents.

*Chong Tash*, (چونگ تاش) north by west, seven hours, is a village situated on a promontory of rock detached from the neighbouring mountain on the right bank of the river of Khamdan. After passing the last station a broad valley opened to the left, forming the commencement of a series of valleys leading to Khafalun. About half-way another opening occurs on the left, turning



towards the south, passing through which a mountain is crossed. They call that the road 'of Sisar; and in the summer, when the waters are swollen the road from Lé to Nobra proceeds over the high lands to this pass where it descends into the valley. The road to Nobra from Sisan is a journey of seven days, over the tops or along the skirts of the mountains<sup>1</sup>.

*Khamdán*, (خمندان) west by north, nine hours, on the right of the river. On our left hand between the south and west<sup>2</sup> is a mountain of ice, which remains unmelted throughout the year. They say it is two hundred cos in extent, and on one side is Tibet Balti, and on the other Serkul<sup>3</sup>, on the boundaries of Badakhshan. From Kashmir to Yarkand, by Balti, is a journey of twenty-five days, three of which are over this glacier, and it is therefore rarely travelled. There is said to be also a shorter road, avoiding the icy mountain, but the people of Tibet keep it a secret. Large blocks of ice, some of a spiral form, were lying about the station: perhaps the place derives its name from this, Kham, a spire or curl. They say that this ice shifts, for the people of the country observe, that a particular stone, which at one season is on the side, is after some time observable at the summit of the mountain. Moreover the water which bubbles at the lower part having become ice, pushes up and takes the place of the ice above it. In some places the colour of the glacier is white, in some it is of the colour of jasper (*jade*), in some like water, and others like the sky. Fuel was procurable, but fodder very scarce.

*Yápchán*, (ياپچان) west by north, ten hours—on both sides the

<sup>1</sup> So Vigne mentions that when the Shayuk is too full for wading, travellers from Ladakh to Yarkand enter the valley of the Nobra, and then turn up a path to the right and arrive at Karakorum after crossing three passes, two of which are called Broknapal, (Izzet Ullah, Moorcroft, Braknate,) and Sisir. Vigne entered the head of the Nobra valley.

<sup>2</sup> Both copies had *Mashrek*, the east; but this is clearly an error. Elphinstone notices this passage of Izzet Ullah's journal:—Izzet Ullah, he observes, does not describe the glacier of Khamdán as forming part of the range of mountains, but as a separate mountain of ice, seen on the left of the road two marches before reaching Kurakorum, and extending two hundred cos, from Tibet of Balti to Surrikol.—*Note*, p. 112.

It is to be inferred that the glacier here met with, is in fact part of the Mustak range, extending across the country of the Dard tribes, north of Little Tibet, to Wakan, where even the latest maps leave a blank. See Map annexed to Vigne's *Travels in Kashmir*.

<sup>3</sup> The Sir-i-kol; the lake in the Pamir mountains from which the Oxus rises, in Lat. 37° 27' N., Long. 73° 40' E.—Wood.

river; the road was irregular, and the snow lay a foot and a half thick.

On the south of the pass of *Karakúrúm*, (فراقوروم) is a small station where stones have been piled up for shelter, which they call a *bargih*, at the southern foot of the mountain, at the distance of ten hours' march, the first part of which runs north-east, and the latter north-west. There are three small houses at the place, but neither fuel nor fodder; the water was also so unwholesome, producing short breathing, that it was necessary to melt the snow for a supply. The climate is exceedingly unhealthy, and particularly for persons living on a full diet. We had, therefore, prepared ourselves by living for three or four days before on boiled rice alone. Horses suffer exceedingly from the shortness of breath, especially, in proportion as they are large of body and well-conditioned.

The source of the river Shayuk is on the south of *Karakúrúm*<sup>1</sup>, on the north is that of the river of Yarkand. The country of Khoten lies at twelve days' journey to the north. Tibet Balti lies to the south-west. The road from Yapchan was sometimes over heights, sometimes over level land, with snow the whole way; in five or six places we had to cross over ice. The river which we had upon our left quitted us at about half the stage.

*Northern face of Karakúrúm.* A station of two or three houses without forage or fuel; the water was all frozen; the horses were knocked up with hunger and thirst, as usual. The snow lay very deep through the whole of the way; the air was very dry, and the labour and the cold affected many persons, and being weak from our previous abstinence, we suffered much from sickness of stomach and difficulty of breathing. The first half of the road was ascent, and the second half descent, and to mark the summit stones are piled, and sticks set up with the chowris of the cow-tail to them. Two large and black crows accompanied the caravan for several cos, the people of which threw them fragments. Flints of excellent quality are found here; they are found beneath the snow.

*Sarigh-out*, (سارگأت) north, seven hours: the road hither is rough and stony, and the place ill supplied, the water frozen. Several small villages occurred on the route.

<sup>1</sup> The Shayuk rises by two heads, one from the snows on the southern face of the Karakurum range; the other, from a lake in the same position a little more to the west, called Nobra Tshu. See Vigne's Map.

*Akták*, (اقتاق) north-west, nine hours, a station on the right bank of a river. Ak, means white, and Ták, a mountain.

With exception of two or three people employed at the ferry the place was deserted. Henceforward the unwholesome air ceased, and forage, wood, and water, were plentiful.

*Khafalun*, (خفلون) north-west, ten hours, on the right bank of the river at the point of a mountain. The road ran along a valley abounding with stones and sand, and was intersected by the beds of torrents now frozen, but some of which were crossed with difficulty. Six hours' march from Akták was a station with wood and water, called Shah-i-áb; after leaving this a road was observed upon our right or to the north, leading over the mountains, by which in the summer time, when the waters are out, travellers proceed to a place called Kalian in Kokiar, a dependency of Yarkand. From the vicinity of this place there was a short road to Tibet Balti, by which in former times the Kalmaks and Kirghizes penetrated into that country. It is said that in order to stop these incursions, water was conducted into the defiles by some contrivance, and this being frozen, completely blocked up the passages. The road hither was level, but rough with stones and sand.

*Taghneh*, (تغنه) nine hours, north by west, on the right bank of the river; opposite to a mountain on the north of it. In this mountain several chasms were exposed by the fall of large blocks, which are said to be mines of copper, which the Kalmaks occasionally find. The word *Taghneh* also means in Tibetan a copper mine. The road was rugged, and strewed with stones and ice.

*Igersáldi*, (ايگرسالدي) west by north, seven hours, on a small stony flat between two mountains, on the right bank of the river.

*Bagh-i-Haji Mohammed*, north-west, nine hours, the road good; a station on the right of the river, abounding in fuel and fodder. On the road half way is a place called Kirghiz thicket, where are the remains of some of their ruined edifices, that tribe having been resident here before the country was subjected to China: being in the habit of plundering the Kafilas they were expelled. The Kirghizes are a Mongol tribe, speaking a Turkish dialect. Near Kirghiz thicket is a pass, by which a road runs in a north-easterly direction to the sepulchre of *Shahid Ullah Khajeh*, one day's march: one night's journey from hence is a mine of Yeshm. I encountered people who had come from *Kokiar* to procure the Yeshm stone. After passing *Kirghiz Jangal*, we came to a pass on our left, which leads to Sirikul, on the confines of Badakhshan.

*Yártobi*, (يارتوبى) west by north, two hours, on the right of the river : supplies plentiful, and the road good.

*Yanghi Dawán*, (ينغى دوان) or the new mountain : the first part of the route, as far as Kulán Oldi, lay to the west, the last nearly due north ; the station is near the summit of the mountain, and furnishes little or no fuel or grass ; the cold was excessive. After two hours travelling, we came to a place called Kulán Oldi, and there separated from the river of Yarkand, for that, here, runs to the west<sup>1</sup>, to Chiragh-Sáldi, whilst we advanced to the north. We proceeded through a narrow and steep defile, down which a mountain torrent, now ice-bound, runs southward, and falls into the Yarkand river ; the road was difficult, and the weather so severe, that two of the horses of Khaja Shah Nias dropped dead in the pass. There is another route by *Chiraghsáldi* mountain, but it is longer by two days' journey than this. The road to Yanghi Dawán has been known for sixty or seventy years.

*Tezak Lak Payin*, (تيزك لك پايين) north, nine hours. A station on the left, near the sources of a stream. Half an hour after leaving our former halting-place, we crossed a pass, and the road descended the rest of the way. In the middle of the valley, the branches of the rivulet were on both sides, but they were generally frozen. This stream, which rises from the north side of Yanghi Dawán, unites with that from Chiragh-Sáldi, and passes by Mizár, when it is called the river of Mizár, and flowing thence below Far-aulik, it unites with the river of Yarkand ; before uniting with which it is called the river of Far-aulik. There were three stations on our route, one of which was called Tezak lak bala (or upper, the halting-place being called payin, or lower.)

*Mizár*, (مزار) north, eight hours. *Mizár* means a tomb, and here is the sepulture of some person of consequence, but of whom I could not learn : a few empty houses adjacent are appropriated to the accommodation of travellers. The land is capable of tillage.

<sup>1</sup> The maps, however, give it a continuous north-easterly direction. The latest and best maps of Central Asia, by Zimmerman, also place Chiragh Saldi on the east of the road : but Izzet Ullah's account is consistent, as he mentions under the station Mizar, that the road from Chiragh Saldi joins the valley on the left, that is, the west. The whole account of this part of the formation of the Yarkand river differs from the map last mentioned ; for that identifies the Mizar stream with the Yarkand river ; whilst, according to our traveller, the main stream, which had diverged to the west at Kulan Oldi, is not again met with until within three hours march of Yarkand.

The authority of Khatai (China) has lately been extended hither : from hence the Turkish language is chiefly spoken. Many individuals in the vicinity possess large flocks of sheep and horses. The road runs along an irregular and uneven valley, on either side of the river. The noxious wind again prevailed from Yanghi Dawán hither. Shortly before reaching the station, the road from Chiragh Sáldi entered the valley on our left, with a torrent running down it into the Mizar stream.

*Chakilak*, (چقلاق) north, six hours, on the right of the Mizar river, which, however, crosses it frequently.

*Khalástan*, (خلاص تن) north, six hours : on the right bank of the river of Mizar, which here runs off to the west.

*Ak Masjid*, (اق مسجد) or *Ak Masi*, seven hours : the first half of the way is north ; the latter half north-west. Although named from a mosque, there is no vestige of any such building. Forage and water were plentiful ; ice was brought from a distance. The first part of the road lay through a valley, into which another opened from the east. In some places blocks of a white stone, like marble, were lying about : beyond this a mountain of earth was crossed, called Topa-dawán ; the name signifies the earth or clay pass. We here left the stream from Khalástan.

*Aurtang*<sup>1</sup>, (اورتنگ) west by north, nine hours, a custom-house station. They examine all packages here, and put a seal upon them. They then send a Chinese officer and two Mohammedans along with the travellers as far as Yarkand. There are sixteen Chinese here, the chief of whom is called Galaï-da. There are two or three Chinese accountants, and two or three Mohammedans, natives of Khatai, one of whom is equal in rank to the principal Chinese. Whenever a caravan arrives, the chief assigns them a place for their goods, and fixes a written paper, in lieu of a seal, upon those articles that are corded ; the others he inspects, and takes out any bearing duty, which he puts up along with the merchandise. On the next day he allows them to proceed with the three individuals before mentioned, whose duty it is to see that the merchants alter none of the bales. The guides conduct the caravan to the custom-house at Yarkand, where they levy from the Kashmir trader one-fortieth of the value, and one-thirtieth from all others. If it is an article that sells by weight, they levy the duty in kind ; if it is sold by tale, they

<sup>1</sup> The Oortung of Elphinstone's map. Here the roads from Lé and Badakhsan to Yarkand seem to meet.

value the article and take their proportion in coin ; if the goods have been altered, a double duty is exacted. Before arriving at the *Aurtang*, there are three stations, at the distance of one cos each, tenanted by two custom-house officers, one a Chinese, one a Mohammedan. The latter is called *Tungali*. There are two or three hundred houses near the *Aurtang* ; a river runs past it, called the river of *Kokiar*.

*Kokiar*, (كوكيار) north by west, one hour. This is a large village, containing above a thousand houses, and is under the charge of four Mohammedan officers on the part of the Chinese Government: one is styled the *Ming bashi*—two, *Yus bashis*—and the fourth the *Alem akhond*. The mountains are visible everywhere in the distance.

*Langer* the third, west of north, one hour. *Langer* (لنگر) means *Post*, and a station of government horses is fixed here. Mounted couriers, on the part of the ruling powers, go from one of these stations to the next. There are usually three of these stations in a day's march. The second station at *Beshtarek* was seven hours. Next march there is a thicket. Between each station, at the distance of a march, more or less, three stones are placed in succession, separated by about a cos.

*Tukayi*, (توقاي) north, ten hours, a post station ; a branch of the river of *Kerghalik* runs past it. *Kerghalik* itself occurs on the road after four hours' march, and is the name both of a district and of a considerable village ; the whole of this route is cultivated and strewed with houses ; there is a market in *Kerghalik* every Monday for horses, kine, asses, carpets, &c. ; there is also a college, and a similar establishment of officers as at *Kokiar*. *Kerghalik* is so named from the multitude of crows that abound there, *Kergha* meaning a crow, and *lik* being the possessive or attributive affix. The river of *Khalástan*, which had left us at *Topadawán*, here returned to our route—gardens were numerous along our course, with willows, poplars, and apricot trees.

*Chagachag*, (چگا چگ) north, nine hours : a small village and post station.

**YARKAND**, (ياركند) four hours<sup>1</sup>. This is a well-known city, defended by a wall of unbaked clay ; the houses are of the same material : the city has five gates—the western is called the *Altún*

<sup>1</sup> The *Yarkian*, *Hiarchan*, *Gurkan*, and *Karkan* of different European writers ; when visited by *Marco Polo*, in the thirteenth century, it was subject to the descendants of *Jangiz Khan*.

gate; the south, the Khankah, is the gate of the citadel, and another gate on the south side is called the Mikrar gate; the eastern is the Kiak al Kun; the northern is the Terek Bagh gate. The principal bazar extends east and west, and has many Chinese shops. A market is held every Friday. There are more than ten colleges, supported by endowments of land.

An hour after leaving the last station, we came upon the right bank of the river of Yarkand, and crossed it; this is the same stream which we quitted on our left at Kulan Oldi. A little beyond that there is a mine of Yeshm stones in the bed of the river<sup>1</sup>; the people, however, are not allowed to work it, and when the river is lowest, the government of Khatai sends divers to explore the river for these stones, and all that are found are the property of the government: the water of the river is run off into small water-courses, for the irrigation of all the land, and canals pass through the city. From the latter the water also is conveyed by narrow channels, and kept in reservoirs for the winter, as at that season the quantity is diminished, and all the lesser channels are blocked up with ice. Hollowed gourds are used instead of vessels, as cups, jars, hookas, &c. This perhaps accounts for the extensive prevalence of goitre here. The people of Yarkand are an industrious race, and mostly engaged in active occupations as shopkeepers and traders; few live by servitude. The duty paid on foreign merchandise imported has already been described; it is only once levied, and there are no duties on internal commerce. The Chinese officer that accompanies the caravans from the station as above described, brings the goods to where they are deposited in separate chambers in the custom-house at Yarkand. On the day following, the Chinese officer compares the articles with the tickets sent from the Aurtang, and then opens and examines the packages; articles sent as presents, and in no great quantity, are not taxed. The merchants usually divide their articles in such a manner that the number shall not reach thirty or forty; so that if one man has a hundred shawls, they are entered in the name of three or four others in the same caravan.

The women of this country are not concealed, whatever may be their rank. In the Hijri year 1050, or about two centuries back, Yarkand, Kashghar, Yengi Hissar, Aksu, Kuchar, and Turfan were under the dominion of Moghul Khans<sup>2</sup>—they subsequently

<sup>1</sup> The Yeshm is the Ju of the Chinese, to which many imaginary virtues are attached; it is a species of Jade. See *Remusat. Recherches sur la Pierre de IU.*

<sup>2</sup> This was in 1640. In the beginning of the seventeenth century, when Goez was there, Yarkand was the capital of Kashghar. It was afterwards taken

fell into the hands of the Kalmaks. The chief of the Kalmaks, entitled the Tura, resided at Ila<sup>1</sup>, and a deputy on his part was sent to Yarkand. After some time an epidemic occurred amongst the Kalmaks, which carried off the Tura, his children, his chief men, and a vast number of people. The ruler of Yarkand was one of the Khajehs of Kara Taghlik, who were favoured by the Kalmaks. A hostile tribe, called Ak Taghlik, was held in subjection at Ila. But when they saw the state of weakness to which their masters were reduced, they collected and attacked the Kara Taghliks, and seized the country. An envoy now arrived from China, but the Khajehs seized and killed him; a body of troops was sent to punish this offence, and the Kara Taghliks, availing themselves of this opportunity to interest the court of Khatai in their quarrel, persuaded the emperor to send a second army for the effectual reduction of their opponents. The Khajehs of the Ak Taghlik behaved manfully, and repeatedly repulsed the Chinese; but being at last overpowered, were compelled to take refuge in Badakhshan. The prince of that country, Sultan Shah, however, put them to death, and sent their heads to the Chinese general. The present ruler of Badakhshan, Mir Mohammed Shah, is the son of Sultan Shah: the children of the Khajehs are now in Bokhara. It is about sixty years ago since these transactions took place, and the country fell under the authority of Khatai.

There is one chief on the part of the Mohammedans in Yarkand, and two on that of Khatai,—Mohammed Hosein, entitled Hakim Beg, is the former; the latter are Chinese, and are called Ambans. Levying of customs, the management of the police, and administration of criminal justice, the regulation of the troops, and the reception of ambassadors, belong to the Chinese: the Mohammedan chief is the judge in all civil disputes, and collects the capitation tax. There is no fixed and well-regulated court for these matters; but an Alem Akhond is appointed on the part of the Hakim Beg, to discharge the duties of chief Kazi (Kazi ul Kuzzat), and he is assisted by a Mufti and Kazi. If an oath is requisite in any cause, the Alem Akhond sends the person to the Kazi to be sworn. The Hakim is never changed except for some fault; but the Ambans are changed every three years.

The chief revenue is the Alban, a poll-tax, levied from every male

by the Uzbeks, and again captured from them by the Eleuths. In 1757, it was annexed by the armies of Kien Long to the empire of China, to which it still belongs.

<sup>1</sup> More usually called Ili.



above twelve years of age. It varies from five pul to fifteen tangas, according to the means of the parties. Students, mullas, travellers, and mendicants, are exempt from this impost. There are 40,000 individuals subject to it in Yarkand and its dependencies. The next person in rank to the Hakim Beg is the Alem Akhond. All disputes between merchants and traders are settled by a jury or Panchayet of the Báyán. A Bae is appointed by the Hakim for every class of merchants; he is also called Ak Sikál (or white beard.) The term Musafir, or traveller, is applied to every foreign trader, even although he be settled here, and have taken a wife and had children in the country.

A pul is equal to one pice; a tanga is equal to fifty pul, but is not a coin, there is nothing less than a pul. Silver passes in lumps, called yambo, about the weight of 160 rupees, and such a lump was current for 224 tangas<sup>1</sup>.

The weights in use are the maund, or eight gherbils, a gherbil is equal to eight charak; one charak is two hundred sers, one ser seven miskals, and one miskal twenty-four nakhud or pease. Wheat is sold at the rate of a charak and a half for a tanga. The cultivation is wheat, barley, rice, mung, and joar. They feed their horses with barley, and with barley-straw, in place of hay; they give also twists of Rishkeh, both green and dried, on which the animals fatten. A horse-market is held every Friday: all the Kirghiz horses are of small stature, and are geldings; the price varies from twenty to a hundred tangas; the utmost price is a yambo; they are in general fleet. The Chinese object to stallions, whence geldings only are brought to market; and, indeed, the people of the country prefer the latter as more docile and tractable. The bargut is a bird of prey, twice the size of a hawk, and with very powerful talons; when properly trained, it is used to chase deer. It catches them in this manner: alighting on the back of the animal, it there fastens one claw, the deer turning its head round to drive it off, the bird fixes the other talon in the animal's throat, and brings it to the ground. It is said of some of these birds, that if they miss the deer, they will fly at the hunter. One of the curiosities of this country is the stone called Yedeh, a stone taken from the head of the cow or horse, by the virtue of which rain or snow may be produced. I had no opportunity

<sup>1</sup> The standard is not mentioned, nor can we depend upon our traveller's valuation of the pul; admitting it, however, to be correct, silver is to copper about twelve per cent. higher than in Calcutta. The rate is probably not far from the truth. The lumps of silver are no doubt the ingots in which the Chinese Sycee silver is commonly current.

of observing the fact<sup>1</sup>, but the truth was attested by very many persons. The individuals who employ the stone are numerous; they are called Yedejis. The stone is to be smeared with the blood of some animal, and then thrown into water: a charm is read at the same time, upon which a strong wind springs up, and then rain and snow ensue. The virtues of the stone are confined to cold countries, and it would therefore be unavailing to transport it to the sandy districts of Hindustan, as Hariana and Bikaner. The truth of the story is known to God alone.

The dignities which the Chinese authorities confer upon the Mohammedans are two—the first is called Wang, the second Baisch; the first wears a peacock's feather, with three eyes, in his cap, and an ornament called Jug-nu; the latter is round, of the size of a pigeon's egg: it is of seven kinds—the first worn by the two orders is made of rubies, the second of coral is worn by the Hakim, the third of lapis lazuli, the fourth of blue glass, the fifth of white glass, the sixth of white stone, and the seventh of silver: the last five sorts are worn by Mirs, according to the scale of their respective ranks<sup>2</sup>. There are forty or fifty Mirs in every city under the orders of the Hakim. The Mirs receive land, or salary, or allowances, according to their degree, from the Chinese government. The sovereign of Khatai is called Khan, and his capital Pehin<sup>3</sup>. The chief force of the Chinese is infantry, armed with matchlocks and bows and arrows.

#### FROM YARKAND TO KASHGAR.

The custom station or Aurteng of Karawul Jâsh, (قراول جاش) sixteen yols<sup>4</sup>. (يول) Half way to Kokrebat (كوكريباط) we passed

<sup>1</sup> This is a very ingenuous confession, and calculated to give a favourable notion of our traveller's veracity, in spite of a little tincture of credulity.

<sup>2</sup> According to Morrison, under the word "rank," the balls or buttons are nine:—One, of a red stone; two, of coral; three, of carved coral; four, of a blue stone; five, of an opaque blue stone; six, of crystal; seven, of a dull white stone; eight, of gold; nine of silver.

<sup>3</sup> Both copies of the Journal write this Pehin, the Tartar pronunciation, no doubt, of Pekin.

<sup>4</sup> This term, now first introduced, is subsequently thus explained. Yol is a Turkish word, signifying originally road or way, but it has now come to designate a certain distance. One yol is said by some to contain 360 fawalik, and one fawalik is equal to two Gez (or cubits) of Shahjehanabad: others say that a yol contains only 360 cubits, two of which in like manner make a fawalik: 70 or 80 yols form a moderately long stage. The latter rate seems the most likely to be correct, as then a mile will be equal to about two and a half yols, and about thirty miles will form a stage, not often although sometimes exceeded.

a number of stations, called Keshlaks; but from thence to the custom-house none occurred, except the remains of a mansion built by Abdullah Khan. The winter dwellings of the people of the country, who during the summer months reside in tents, were originally called by the name of Keshlak, and it has thence come to signify any village. At this station the passports of those going from Yarkand to Kashghar are examined and countersigned.

The Aurteng of Chemlun, forty yols. A good road: the passports are here again examined.

Aurteng of Tussaluh, fifty yols, another custom-house station: several villages on the road.

Yengi Hissar: this is a city under the Chinese government; two Chinese officers and one Mohammedan preside over it; the name of the latter was Hakim Mahmud Beg; he is a kinsman of the Hakem of Kashghar.

Paichánd, a village and custom-house station, ninety yols.

Kashghar, (كاشغر) ninety yols. A well known city, where I arrived on the second day of the Moharram, in the year 1813. We alighted at the house of Samijon, a Tashkend merchant, to whom we brought letters. The wife of the Hakim sent me a dressed skin, and a Jama of Khatai. The Hakim of Kashghar was named Yunas Beg; he had left the city to pay his respects to the Khan of Khatai on the second Shaban, and settle the rate of tribute. Kashghar pays six thousand tangas a month.

Mullah Nazr of Kashghar had accompanied Sekander Beg, the wang of the ruler of Kashghar, twice to Pehin, and had kept a register of the stages of his route. He allowed me to take a copy of his journal, and added orally such observations as he recollected. The following account is derived from his information:—

#### ROUTE FROM PEKIN TO KASHGHAR.

[The account which Izzet Ullah received from his friend, presents little more than a list of names and distances, but with respect to the former, at least, its accuracy is unquestionable, as many of them are identifiable in D'Anville's Atlas, due allowance being made for the peculiarities of French and Persian spelling. They also occur with additions on a MS. Chinese map on a large scale in the East India Company's Library. The coincidences with the Atlas as formerly pointed out are reprinted; and I have added one or two more from the map, with the assistance of Mr. Hutteman, distinguishing them from the few notices of the original, by inclosing

them in a parenthesis. It may be remarked that the same identification is not practicable in that portion of the route which lies west of China; few names, except those of the large towns, being traceable; in truth, however, the minor stages are mostly of a temporary nature, varying at different periods, unlike those of China, which are permanent villages and towns.]

Pehin, پھین is the capital of China, which is also called Machin, and the residence of the sovereign, whose title is Khan, and who belongs to the nation of the Manchus. The present monarch is named Cha Chatek; he has been eighteen years on the throne. His father Cha Tun reigned about ten years. His predecessor Ai Zin Khan was the emperor who wrested Kashghar and other places from the power of the Khajehs.

		Yols.	
Langsang,	لنگ سنگ	50	(The Leam heam hien of the map.) A village. The road is stony and crosses a large river by a bridge; the river runs from a northerly to a southerly course: (the river is the Hoen ho.)
Jo jo,	جو جو	70	(Tso cheou, Do.)
Be kha,	بیخا	—	(Pe keou ho, Do.) A river on the road crossed by a bridge (the Cha ho river.)
Anshowi,	انشوی	70	(Yomtchien hie, Do.)
Bu din fu,	بودینفو	50	(Pao ting fou, Do.)
Jing tengi,	جنگ تنگی	45	
Wang do shen,	وانگ دوشن	45	
Ding ju,	دنکجو	60	(Ting tcheou, Do.)
Shin lo shen,	شینلوشن	50	(Sing lo hien, Do.)
Fu jin gi,	فوجنگی	45	
Jig zing fu,	جگڈنگفو	45	(Tching ting fou, Do.)
Khoai lo shen,	خوای لوشن	60	Road mountainous.
Jing sing shen,	جنگ سنگشن	70	
Kan lo wi,	کن لوی	40	
Ba jangi-i,	بجانگی	40	

		Yols.	
Fing ding ju,	فنگدنگجو	50	
Zer i shi,	زريشى	50	The road crosses a mountain pass.
Sheo yung shen	شہو ينگشن	50	(Cheouyang Shen, of D'Anville, in the province of Shansi. It is singular that the great wall, which, according to the map, should have been passed in this part of the journey, is not here adverted to.)
Tang ga li,	تنگ گالي	50	
Wang khu,	وانگخو	70	
Shan gu shen,	شنگوشن	70	Knives, scissors, and chakmaks are manufactured here.
Ji shen,	جيشن	60	
Fang yu,	فنگيو	50	
Jai shu shen,	جيشوشن	80	
Ling shi,	لنگشي	80	(Ling che hien.) The road runs through a valley, in which is a stream, crossed by a bridge.
Rin gi,	رنگي	40	
Khu ju,	خوجو	60	(Tcho-tcheou.) The road runs over hills.
Ju jing,	جوجنگ	50	(Tchao-tching.) Several streams cross the road.
Khun dang shen,	خندنگشن	35	
Fing yang fu,	فنگينگفو	60	(Pin yang fou.)
Seng i,	سينگي	60	(Tsi chan.)
Khu ma,	خوما	70	
Wang shi,	ونگشي	80	
Be sheng,	بيشنگ	80	(Van suien.)
Fin jou ye } ling jing, }	فنجو يي لنگجنگ	70	
Yeng je shen,	ينگجيشن	70	
Sa fu di,	سفودي	70	Tea is brought here from

- Yols.
- Tung gan, تنگن 70 A city on the right bank of a large river running north and south ; it is deep enough for vessels.  
(This is the Hoangho, or yellow river : the city is probably Tongquan, seated at the confluence of the Hoiho and yellow river.)
- Ju-ai mu, جوایمو 40 (Hoa-in) a very large temple is situated here.
- Khoa jo, خواجو 50 (Hoacheou.)
- Wai tan shen, وای تنشن 50
- Lingtong, لنگ تنگ 80 Near this city is a mountain with warm springs, said to be very beneficial in cutaneous disorders. Sulphur is also brought from the mountain. "Ling" in Chinese means cold, and "tong" copper.  
(This is no doubt Lin tong hien.)
- Shing an fu, شنگ انفو 50 (This is Sin gan fou, the capital of the province of Shensi. It is described in the Journal as a large city with many Mohammedans settled in it; they are called Tungani, it is added, from their having first settled in Tungan (Ton quin ?) in like manner as in Hindustan, they are called Turks. The course of our traveller here changes from west by south to due west, and presently to north-west.)
- Sheng shen, شینگ شن 50 Another large city on the left bank of the river; boats of two or three hundred mans burden ply on the river.  
(Perhaps Tcheou-tcheheu.)

		Yols.	
Le sun,	لیسون	70	
Chan chou,	چنچو	40	
Yang shu,	ینگ شو	90	
Weng ju,	ونگجو	70	(Long tcheou.)
Jan ga u,	جانگاو	80	
Wa yi za,	وایزا	45	
Chen ju,	چین جو	55	
Be shu wi,	بیشوی	70	
Fing lang fu,	فنگ لنگفو	70	A city (Pin-leang-fou.)
Wa-teng,	واتنگ	70	The road runs between mountains from east to west.
Lung de shen,	لونگدیشن	50	Road in a valley between mountains and over a pass.
Jing ning ju,	جنگ ننگجو	90	(Tsin-ning tcheou.)
Jang ja yi,	جنگ جایی	90	
Ju-ning shen,	جوننگشن	90	
Shi gang yi,	شیکنگی	60	(Si cong i.)
An dang shen,	اندنگشن	60	(Ngang ting.)
Jing ko wi,	جنگ کوی	60	
Jing sho i,	جنگ شوی	70	
Jo zo yi,	جوزویی	60	
Lan ju,	لانجو	50	A city on the right of a river running from east to west, and crossed by a bridge of boats. (The city is no doubt Lam tcheou, on the Hoangho, but the course of the river must in that case be erroneously described.)
Sha jin yi,	شاجین بی	50	
Ko sho yi,	کوشوی	70	(Cochou). Road amongst mountains and over a pass.
Khun jing za,	خونجنگزا	50	
Cho ang lang,	چوانگ لانگ	70	A city: (Tchoing lang ing.)

		Yols.	
			Many windmills; musk of a good quality is procurable here.
Ao shin yi,	اوشين يي	30	
Cha ko i,	چاکوي	—	
Jing chang li,	جنگ چانگ لي	50	
Khong,	خشونگ	60	
Go lang shen,	گولانگشن	30	
Jing shen li,	جنگ شن لي	60	
Da khi ya,	داخيه	40	(Ta-ho-y on the map.)
Lan jo,	لانگجو	30	(The city of Leangtcheou.)
Do lang,	دولانگ	50	
Sha kha,	شاخه	40	
Yong chang,	يونگ چانگ	70	(Yong tchang oei.)
Shawi chutra,	شويچوترا	70	
Sha ku wa,	شاکوا	50	
Shing ni,	شنگني	40	
Shan dan,	شندن	40	
Dun lu,	دولو	40	
Ko chin za,	کوچنزا	30	
Kan ju,	کن جو	40	(A large city; the city of Kan cheou.)
Sha jing yi,	شاجنگي	50	
Ku yi,	کوي	40	
Go ti,	گوتي	40	
Khachu dán,	خچوادن	50	
Shang pu,	شانگو	50	
Yan chi,	ينچي	30	
F'in jing za,	فنجنگزا	40	
Lang shu yi,	لنگشوي	60	
Su ju,	سوجو	40	A large city, the first belonging to China proper, on the road from Kashghar. (A circumstance that identifies it with Sou tcheou.)



		Yols.	
ai gu ouden,	جاىگواودن	70	A village near one of the gates of the great wall of China. (This confirms the preceding, Soutcheou being a short distance within the wall. It may be observed, that the route is singularly circuitous.)
Khoi khoi fou,	خوپخويغو	90	(Hui-hui-phu.) This and most of the following are <i>Aurtengs</i> , custom-house stations or guard-houses; it is said that the tomb of Saâd wakas is here.
Sha li,	شالي	110	
Dartu,	دارتو	90	
Senda gu,	سنداگو	30	
Ku lun ji,	قولونجى	90	
Shu kan,	شوکن	90	
An si,	انسى	70	
Be dung za,	بيدونگزا	90	A custom-house. The country about this is a wilderness.
Khanluyunza,	خنلوبونزا	80	A custom-house.
Wa chan za,	واچنزا	80	Ditto.
Ma ling jing za,	مالنگجنگزا	70	Ditto. The hills are low.
Shang shang sha,	شنگشنگشا	80	Ditto.
Sha jan za,	شاجنزا	90	Ditto.
Ko shoi,	كوشوي	80	Ditto.
Chang sho i,	چانگشوي	70	Ditto.*
Gazeh fi zang,	گزهفيذنگ	140	Ditto.
Kha lungan,	خالونگن	80	Ditto.
Kamul,	قمول	70	A city: the language is Turk. This city was subject to China before the conquest of Yarkand. N.B. It should be Hami, called also Khami and Khamil.

		Yols.	
Sumakyaghu,	سوماقايغو	70	(Sumakarhu on MS. map.)
Tughachi, '	توغاچي	70	
Yazachawan,	پازاچوان	80	A custom-house: road level.
Lo dong,	لودونگ	90	Custom-house.
Autunguza,	اوتونگوزا	140	Ditto.
Outera germa,	اوتراگرما	90	Ditto.
Kush,	قوش	140	Ditto.
Ku shu i,	كوشوي	70	Ditto.
Chiktam,	چيكتم	90	Ditto.
Fijan,	فجان	90	Ditto, in the desert of Turfan.
Lamchin,	لامچين	70	A village dependant on Turfan, with a running stream, the road rough. (Lamtchin of the map.)
Sangam,	سنگم	90	
Turfan,	طرفان	90	A ancient city, the present residence of the Chinese Governor with a Moham-medan Hakim; the old city of Turfán is in ruins; its site is fifty yols from the present. It is called also the city of Dakianus, the sleepers of Kaf having occupied a cave about twenty yols on the south of the old city. (This piece of information is more curious than true. Turfan is well known.)
Yu ghan,	يوغان	70	A Custom-house.
Tu-kun,	توقون	60	Ditto, and village. (Takun pass, MS. map.)
Su-ba-shi,	سوباشي	90	Ditto, between mountains.
Aigher-bulak,	ايغربولاق	60	(Bulak or Pulak is a well,) a custom station.

		Yols.	
Kamush-Akma,	كموش اكما	120	Ditto, amongst mountains.
Keraf sin,	قراقسين	90	Ditto.
Aushak tal,	اوشاق تال	150	(The Outchactal of the map.)
Tabalghu,	تابلغو	90	(Tarbatchi.)
Kara sheher,	قراشهر	90	A large city of the Kalmaks, on the left of a navigable river running from east to west. An Amban on the part of China rules over the city; and a Hakim presides over the Kalmaks, they call the latter Ji-shan. (This name is, no doubt, traceable in the Harachar of the map; the form of it as here given is most correct, for it means something, 'The black city.' Harachar it would be difficult to expound. The direction of the river is as usual wrong, for it runs from north-west to south-east. There is, however, a great disagreement between D'Anville's map and the original map before alluded to, the latter making the Harachar river totally distinct from the river of Yarband, and formed of two streams called the Chultos and Haptísihai, which not far from the city fall into the Bosthu Lake, a lake much larger than Lop Nor, some way due north from the latter.)
Bash ir gam,	باش ابرگم	90	A custom station—the river is on the left of travellers going from China to Kashghar, and runs to the south.

		Yols.	
Korla,	کورلا	40	The road mountainous, but not difficult.
Kara su,	قراسو	70	A custom station.
Chir chi,	چرچی	140	Ditto, dependant on a place called Bugar.
Chider,	چدر	160	
Yangi hisar,	ینگى حصار	60	A village. The road runs through a forest of trees, used as fuel, called Tograk. N.B. Yanghizar of the map.
Kamush tureh	قמוש توره	110	A village of about 500 houses dependant on Bugar.
Ayad,	ایاد	80	A village.
Bekeb,	بقد	140	Ditto.
Ku cha,	کوجا	80	A city on the left bank of a river, running south; crossed by ferry. (Coucha of the map.)
Kizil,	قزل	160	(Catsal. Do.)
Siram,	سیرام	40	A city. A stream crosses the road, running south, crossed by ferry.
Ba i,	بای	80	A city on the right bank of a river.
Aun bash,	اون باش	60	A custom-house; a fordable stream crosses the road.
Ak erik.	اقاریف	70	A custom station.
Kara yulghen,	قرا یولغن	40	Ditto.
Jam,	جام	40	Ditto. A few houses of cultivators.
Aksu,	اقسو	70	A celebrated city, under the usual joint administration. On the road is the small stream of Ila, which gives its name to a city formerly the capital of the Kalmaks; it is fifteen days from Aksu, west by north. Ila is now the principal military station of

Yols.

the Chinese, being occupied by the commander-in-chief, styled Jung-ju, (Dschangiun or Tsiang kiun), with a force of 100,000 horse. Sixty days north from Ila is Yelduz, the actual residence of the chief of the Kalmaks: a range of mountains extends to the north of Yelduz beyond which the country is unpeopled. On the west of Ila is a large piece of water called Azashk kol, which is the limit of the Chinese power in that direction. The Kazzáks occupy the country between Ila and the Russian frontier, which they thus separate from the Chinese. Ila is properly the name of the river on the borders of which stood the city, thence so called, and which is now deserted. There is the grave of Tughluk Timur, the first of the Chaghatai Sultans who adopted Mohammedanism. At present the appellation of Ila is applied to two cities, one called also Gulja, occupied chiefly by Mohammedans; the other Kurah, where the Chinese troops are stationed, and which is the residence of the Chinese Governor-General of Moghulistan and of the Kalmaks. These two cities are one march apart. At a place south of Ila they find a kind of stone which they use for fuel (coals) instead of wood; it is of two kinds, one of which emits a fragrant, the other an offensive smoke. The same substance

## Yola.

is found one march from Aksu, in a mountain; but it is not burned. (Ili or Gulja was visited by M. Poustemtev, in the Russian service, in 1811, and his description of it is published in the second number of Klaproth's *Magasin Asiatique*. The Chinese forces stationed there are much exaggerated in the text, being under 4000 Manchu troops, with 28,000 local militia. M. Poustemtev does not mention the use of coal.)

Kubu,	قوبو	80	Custom station: a large river running to the south.
Yengi arik,	ينگی اریق	70	A village.
Wuchut,	ووچوت	170	A station.
Yazendu,	یزندو	70	A station: much wood of Tograk trees.
Autuz kimeh,	اوتوز کیمه	56	A custom station dependant on Yarkand: Tograk trees and reeds.
Kingrak,	قنگراق	30	Ditto.
Kokchul,	کوکچول	100	Ditto.
Yarchuk,	یارچوق	100	
Kashkopardak,	قوشکوپردک	60	
Marli ash,	مارلیاش	50	
Shakur,	شاقور	50	A halting-place, not inhabited, on the right bank of the Kashghar river.
Ak chakal,	اقچقل	150	This and the two next are mere halting-places, uninhabited.
Pimash,	پیمش	60	
Tuktalghen,	توختالغن	60	
Yangi abad,	یانگی اباد	90	A post station dependency of Kashghar

	Yols.	
Fyzabad,	فیض آباد	50 A large village 1000 houses.
Kimayiuy,	کیمایوی	50 Halting-place and ferry over the river of Kashghar.
Abad,	آباد	70 A village dependant on Yarkand.
Kashghar,	کاشغر	70 A celebrated city, in latitude something above 40 degrees. Khoten is the name of a neighbouring country, the surface of which is chiefly sand and desert. It abounds with wild asses, camels, wild cattle, and musk deer; the camels have two dorsal humps, and are of great speed. Khoten has six cities besides, the chief of which is called Aichi, (ایچی) and is governed by a Chinese and Moham-medan. One stage south from thence is Karakash : three stages north Yurungkash : and the same distance east is Tagh : three days further east is Kiriya : north-east from Tagh, four days, is Chira, and three days, north-west, is Nia Kashlak.

From Yarkand to Aichi is eight days' journey, the whole through a desert. Yarkand bears from Aichi westward, inclining to north: the names of the stages are as follows:—

Postkám,	پوستکام
Luhuk,	لوهوک
Chulak,	چولاق
Gamah,	گماہ
Muji,	موچی
Pialma,	پیالما
Zerwa,	زروا
Aichi,	ایچی

[A list of stations from Kashghar to Khoten, as derived from the Chinese authorities, is published by Klaproth ; that route makes the distance six stages instead of seven, and the three first only agree : they are written by him, Yerkeang, Po-tzu-tsiang, Lo-kho-terianger, Go-matai, Gung-delik, Bian-urman, Khotian.]

#### FROM KASHGHAR TO KOKAN.

Kashghar is pronounced by the people in general Káshkár. (قاشقار) It is defended by a mud wall, with four gates. A market is held every Friday in the city, except that for horses, which takes place without the wall. A great number of horses are brought here for sale, chiefly by the Kirghizes and Kazzaks ; they are all geldings, stallions are very rare : the former are sold at from twenty tangas to one yambu. Mules are preferred by the Chinese, who are said to cross the breeds of horses and kine ; but I saw none of the breed.

The residence of the Chinese governor, and most of the Chinese, is without the city, in a separate suburb, termed Gul-bagh. There are more Chinese troops in Kashghar than in Yarkand, there being about one or two thousand in the latter, whilst five or six thousand are stationed in the former.

Kichek Indejan, (كچك اندجان) west by north, five hours, a station on the bank of the river of Kashghar : no inhabitants

Kona Karavel, (كونه قراول) west by north, six hours.

Aurteng, or custom station, west by north, three hours. A few houses are in the city. The passport for leave to quit the country is here examined. There is great difficulty in procuring this document ; and it is obtained by furnishing sureties to the Hakim of the city, through the intermediation of the board of merchants described in speaking of Yarkand : this, with the addition of his own signature, the Hakim delivers to the Amban. The sureties make assertion, that the traveller is a merchant going on business, and free from all claims ; and they engage to be responsible, if any cause should be hereafter shown, why he ought not to have been suffered to depart. On this a paper in the Chinese language is granted, which is produced at this station. There are no houses beyond this.

Kinchaghlak, (قنچغلك) west, four hours, a deserted station on the skirts of a mountain ; mountainous ranges extend on either hand, but at some distance.



Kizel-ouli, (كزل اوي) west, eight hours, [a single house, with Kirghiz tents near it: the first part of the road is mountainous, the latter level. The cold was extreme, and water frozen. The felt tents of the Kirghizes lay on both sides of the whole of the road.

Shorbulak Kurghasham, (شوربولاق قورغشم) west by north, three hours. Lead is found here, and exported by the Kirghizes. Shor means salt; Bulak, a spring, and Kurghasham is lead.

Shorbulak Malachap, (شوربولاق ملاچپ) west, four hours.

Oksalur, (اوتسالور) west by north seven hours; road undulating, fodder and water abundant. Ok means an arrow, and Salur, caster.

Dawan-mizar, (دوان مزار) west by north, two hours; the road leads over a steep pass; on the summit are the tombs of the Kirghizes.

Shorbulak Yessa-kichak, (شوربولاق يساكچك) west by north, five hours: fuel, fodder, and water abundant.

Yessa Kichak, (يساكچك) west, four hours—a ford here of the river, which runs to Kashghar. Yessa means level, and Kichak a ford.

Ser Kamush, (سرقموش) west, four hours, a station.

Simirjatun, (سيهبرجاتون) a halting-place.

Koh Kaf, (كوه كاف) is the name of a place about half a cos from the road on the right hand. (In Zimmerman's map this name is repeated; one Koh kaf occurs after Dawan Mizar; the other, which more nearly corresponds with that of this stage, is placed beyond Yanghin.)

Ford of the river of Kashghar.

Nakára chádi, (نقاراجادی) on the bank of the river, there are vestiges of buildings on a hill. They say this was the place where the royal drums of Afrasiab were stationed.

Yanghin, (ينغين) west, nine hours; tents of the Kirghizes: road runs along a valley abounding with verdure.

Tukai Bashi, (توقاي باشي) north-west, seven hours: in a valley with a running stream: wood is collected here and carried on to Dawan Tirak; much snow began.

A halting-place, west by north, five hours. I lost my way on this stage; being unable to distinguish anything through the heavy fall of snow, and at last unable to proceed, I took shelter under the side of a mountain: the water was everywhere frozen.

Dahána dawan Igizek, (دهانددوان اگيزک) four hours. The first part of the road ran west, the last south. Igizek means twins, two mountains of similar appearance being here near together; the valley, or mouth (dahána) between them is quite barren. (Zimmerman has placed this stage after Tukai Bashi.)

A station west by north, eight hours. One of the mountains called twins is crossed on this stage, an ascent of an hour and a half.

Koksu, (کوکسو) west, four hours. The source of the river of Kashghar is at this place: the road is uneven and mountainous. The second of the twins was crossed on the way, and the elevation was the same as that of the first. We crossed the river upon ice. A mountain still higher than the twins lay upon the right of Koksu.

Darwaza Dawan Tirek, (دروازه دوان تيرک) west by south, three hours. After descending the mountain of Koksu, the road leads through a narrow valley shut in by lofty mountains (hence the term darwáza, door or defile.) A stream passes along the middle of the valley, which, uniting with others, flows into the river Sir, (سير) not far from Indejan.

The skirts of the mountain Tirek, north by west, three hours.

Archilak, (ارچلک) north by west, ten hours; a place in a valley, abounding in fuel and Archah trees. The ascent of the mountain took up two hours, but it required eight to descend. From this mountain a road runs south to Sir-i-kol, which is three or four days' journey; but in the warm weather the state of the torrents renders it impracticable. It is necessary to make a detour to avoid the mountainous pass of Tezek. Although the snow had begun at Kinchaghlek, yet it was only from the "Twins" that it had become heavy, being now of the depth of a man's stature, or in some places of twice that depth. The Kirghizes tread the snow down so as to make it hard, and then the caravans pass; a certain number of Kirghizes are appointed to this duty, who take up their station here on the setting in of winter.

Yamán kiz, (يمان کز) nine hours: first half, north by west; second, west. This is the name of a tribe of Kirghiz who are first here met with; the road runs along a valley between two mountains, with a stream in the middle. Half-way we passed a valley on the right, in which were the tents of the Kirghizes.

A Stage, west, five hours. The road continuing along the valley. Kirghiz tents, and wood and water abundant.

A Stage, west, two hours. Tents of the Kirghizes; supplies plentiful.

Mizar Gumbuz, (مزارگنبز) west by north, eight hours. A building with a cupola and Kirghiz tombs; their tents were also pitched near the building; supplies plentiful; the road, though undulating, was less rugged; flints were found on the path.

Gulshen, (گلشن) west, five hours. A plain amongst the mountains with fruit trees, as the jujube and pomegranate; there are also other trees in abundance, and running water. A little beyond this the stream, which had accompanied the road from Archilak, separated from it, and flowing on the left of the road, continued its course towards the Sir.

The skirts of the mountain Chugur chuk, (دامن دوان چوغور چوق) four hours: first half, west by south; last half, south. Tents of the Kirghiz; the river running north, a stony valley, and supplies scanty.

Below a hill, Zer tappa, (زیرتپه) west, nine hours. The name of the place I could not learn. Kirghiz tents, and a spring on the hill. There was much snow on the road along the mountain Chugur chuk. It was an ascent for about three hours, a descent for the remainder. The snow was heavy on the descent, and several horses of the caravan perished, amongst which was mine.

Langar, a station, west, four hours. No habitation, supplies scanty, but a stream of water; the road level.

A stage, west by north, five hours. No habitations, but forage and fuel.

Aslaye, west by north, three hours. There was a lake and trees surrounding it; near it was the encampment of the Yodas, a tribe of Kirghiz, the road was level, and henceforward the hills began to disappear.

Osh (وش) west, five hours. This is the first town in Ferghana: it is of considerable population, and is well supplied with water. It is governed by a Hakim, nominated by the Amir of Kokan: the road leading to it is level and good, and the Kirghizes, whose tents occur, are dependent upon this government. From Kashghar to Kurghasham they are dependant on the former place; that is, they carry their fuel, charcoal, and other things, to Kashghar for sale. They are privileged to have free transit, and require no passport, but come and go at pleasure: they are subject to China. Those from Kurghasham to Osh are the subjects of the Amir of Kokan: they possess

extensive herds of cattle and horses. In the time of Narbuta Be they obstructed the road, but they were compelled by (his son) Alem Khan to leave it free to travellers. Osh is celebrated by the name of Takhti Suliman, and the tomb of Asef Barkhia, the vizir of Suliman, is still shown here: it is of great size. The throne of Suliman is on a small hill west from Osh, surmounted by a building with a dome. In the spring great numbers of people repair hither in pilgrimage to the tomb from all the surrounding countries, bringing with them articles of various descriptions for sale and barter. A bazaar is held in Osh every Tuesday. In the warm season the place swarms with mosquitoes, and the people construct a tall frame of four long posts in the centre of their houses, and sleep on the top of it. Nimangan is the name of a city two stages from Osh, west north-west, the fruit of which is very famous. Andejan, the former capital of the kings of Ferghana, now deserted, lies three stages west by north of Osh, and is one stage west of Nimangan<sup>1</sup>. The father of Baber, the emperor of India, Omer Sheikh Mirza, resided in Andejan.

Ardaneh, (اردانه) eight hours, west by north. A large station, the residence of a tribe of Badakhshanis: it is famous for its gardens. The road runs between hills, but is good, as the mountains do not approach very close. On the way there are many Tartar stations and places where droves of horses are pastured. Wheeled carriages are employed from Osh to the other cities of Ferghana.

Ming tappa, (منگ تپه) three hours, west. A large station: the adjacent country is divided into the pasture grounds of the Turks and Kapchaks, whose flocks are allowed to graze at will during the spring and summer months. These two tribes amount here to 10,000 or 12,000 families: they are a strong good-looking people, apparently in a prosperous condition, well dressed, and of military bearing, and present a striking contrast to the Kirghizes, who are a mean-looking race, ill-fed, housed, and clothed, and furnishing few soldiers.

Lulikhaneh, (لولیخانه) three hours, west. A station: Andejan is one march to the north, and in the same direction, at a short distance, is a place called Kaba. On the road are both Kirghizes and Kalmaks—the latter are Musalmans.

Kuperdeg, (کوپرد) west by north, road good, five hours.

<sup>1</sup> The name approaches to the Namgan of the map, but the situations are quite irreconcilable; one or other statement must be incorrect.

Several stations on the route; a river on the way, crossed by a bridge.

Marghinán, (مرغنان) six hours, west by north: it is also called Merghilan, and is one of the chief cities of Ferghana. It contains the tomb of the celebrated monarch Sekander Zulkernein (Alexander the Great). The place is exceedingly pleasant, and the people well-disposed. The ruler is the heir of the Amir of Kokan. Silk and shawl-wool are abundant here, and the people manufacture shawls, although of an inferior workmanship to those of Kashmir. The bulwarks are of clay, and they are in a dilapidated condition: there is a large minareh in the town, of burnt bricks.

Akbeg, (اقبيگ) five hours, west by north. On the road the stations are numerous, but we crossed part of a desert.

Kara khatai, (قراخطاي) four hours, west by north. A station of Mohammedans: there are two roads from Merghinan to Kokan, one thickly peopled, the other leading through a desert—which latter we followed.

Kokan, (قوتان) eight hours, west by north: it is also written Khokand. (خوقند) It is a large city, without a wall; from the time of Narbuta Be it has become populous—beyond it there are not many more stations; it has a number of canals supplying every house. Amer Khan is the present ruler—two years ago, or in the beginning of A. H. 1228, it was subject to Alem Khan, his elder brother; but, in consequence of his tyrannical conduct, he became the object of universal detestation, and upon his march to Tashkend, the whole army mutinied, and, deserting him, raised the younger brother to the sovereignty of Kokan. After a short time, Alem Khan returned to Kokan to recover his authority, but lost his life in the attempt.

Alem Khan and Amer Khan were both sons of Narbuta Be. The Amir of Kokan maintains a force of ten thousand horse, and pays them by grants of villages and lands; they cannot keep the field above two months at a time, as they carry with them provision for no longer a period. The other troops, raised by the tribes, amount to thirty thousand; but they only engage to serve one month at a time, and that only once a year. Their services are not paid by the Amir. The people subject to the Government of Kokan are of the Kirghiz, Turk, Kapchak, Ming, and Kazzak races. The troops are mostly armed with spears—some carry matchlocks. The chief cities belonging to the Amir are Osh, Namangan, Kasán, Chus,

one stage from Namangan, Andejan, Marghinan, Kánbadám, Ashferek, Khojend. All these, except Chus and Namangan, are to the left of the Sir, the same river as the Sihun. Namangan and Chus and the hill country of Indejan are on the right of the river: the latter is rich in verdure and abounds with fruit. The forts of Turkestan are Sharukhiah, Tashkend, and Siram. The country about Tashkend is called Turkestan. Formerly Tashkend was named Shásh; it is very pleasantly situated; the river Chirchek flows below it. To the north of the mountains of Andejan the country is a barren plain; to the north of which are the tribes of Kazzaks and Kara Kalpaks, dependant on Russia. The capital of the Khan of the Dast Kapchaks, Bulghar, now known by the name of Kazan, is in the Russian territory. The western boundaries of the wastes extend to the sea (of Aral or the Caspian), the east to the possessions of China.

The chiefs of the Kazzaks have not the title of Khan, but Tura, or chief or head man. Amer Khan in Kokan strikes coin in his own name—one tanga is equal to sixteen puls, and one pul is about two mashas. A gold tila of Bokhara sells at Kokan for 150 tangas, the coin of the country, which is a copper coin washed or plated with silver. The Khotba is not read in the name of any one person; and although there is a good understanding with Bokhara in appearance, there is at bottom great animosity. There is entire independence of that state, but Alem Khan is obliged to keep a force as a defence against the pretensions of Bokhara. The language of Kokan is Turkish; the people of the city are Tajiks or Persians: the chief civil minister of Amer Khan is Mirza Yusef of Khojend. Mirza Asmet Ullah is his deputy. I received great kindness from Mirza Yusef, and he was very desirous I should remain in Kokan.

#### FROM KOKAN TO SAMARKAND.

Besh arik, (بیش اریق) eight hours, west by south, a station; a bazaar every Monday: it is dependant on Kokan. Very many stations on the road.

Shahbirdi, (شاهبیردی) one hour, west by south, a station and market.

Kan badám, (كان بادام) three hours, west by south, a large town like a city, having a mountain on the north-west, and a river running along the skirts of it. Formerly the place was famous for

almond trees (whence the name, Badám meaning "almond"). Stations all the way from Kokan.

Moharrem, (محرم) four hours, west by south, a village with a mud fort on the left bank of the Sir, about an arrow's flight distant.

Khojend, (خجند) seven hours, west by south, a celebrated city, about two bow-shots from the left bank of the Sir, defended by a fort and mud wall. Fruit is very plentiful and excellent. The people are of a kindly and cheerful disposition, the people of the city speak both the Tajik and Turk languages. We followed the course of the river through this stage.

Ak tappa, (اق تپه) two hours, south-west, a station with a mud fort: at half a fersekh from Khojend we crossed the Khojend river, which is distinct from the Sir, by a bridge.

Ak su, (اق سو) three hours, south-west, a station; the last under the authority of Kokan.

Kur ket, (کورکت) two hours, south-west, a station with a mud wall, subject to Uratappa, the authority of which government here begins.

Ura tappa, (اوره تپه) eight hours, south-west, a city between two lofty hills, over which the houses extend; it is defended by a mud wall. The ruler of this place for the last six years has been Khajeh Mahmud Khan, a native of Samarkand, a descendant from the Khaja of Herat, and related by the mother's side to Abulfaiz Khan, who was king of Bokhara. He was the son of the sister of Khoda Yar Be, Usbek of the tribe of Yuz. Some years since, before the government of Mahmud Khan, Khoda Yar Be was the ruler of this district; after his death Ura tappa became subject to Bokhara, until Alem Khan took it. Having left it but weakly garrisoned, Mahmud Khan succeeded in surprising it, and gained possession of the place. He professed to have done this for the service of the king of Bokhara, Hyder Beg, to whom he wrote on the occasion, and who readily encouraged him in opposition to Alem Khan. With this support and that of the Usbeks, to whom he was of kin, and who therefore flocked to his assistance, he soon became too powerful for the Amir of Kokan to assail; and he has since held undisturbed possession of the city and adjacent country. The coins are struck, and the Khotba read in the name of the king of Bokhara; but his supremacy is acknowledged in no other respect. A number of the Yuz and Kirek Usbeks are spread about Ura tappa, and constitute

the best forces of Mahmud Khan—upon occasion, they can furnish him with fifteen or twenty thousand horse:

Bekhani, (بخانی) a station near Ura tappa.

Urakinet, (اوراکنت) another station near the same.

Siyat, (سیات) five hours, south-west, a large village, with a mud fort, dependant on Ura tappa.

Yam, (یام) two hours, south-west, a large village, with a mud wall and market : it is the last place in this direction dependant on Uratappa.

Kuduk, (قدق) eight hours, west by south : the word in Turki means a well, there being many wells on the spot, which is tenanted by Usbeks.

Dizikh, (دزخ) six hours west ; it is also called Jizikh : it is a considerable town, defended by a mud wall and fort, and governed by Abdurrasul Be, the brother of Hakim Be : the passes of all merchandise from Kokan to Bokhara, are made out here, and forwarded to the latter place, where the duty is paid.

Ilan Ute, (ایلان اوتی) two hours, west, a place abounding with snakes in the summer ; at present there were none to be seen. The mountains here approach on either side, so as to form a narrow gorge : on the northern side an inscription is engraved upon a stone in the mountain, stating that Sultan Abdullah Khan, in the Hijri year 977, with an army of 100,000 men from Tashkend, Turkestan, and the steppes of the Kapchaks, made war upon the Khans, and defeated them with so great a slaughter, that for a month after, the stream which passes by this place ran with blood. The stream comes from Dizikh.

Yangi Kurgheh, (یانگی قورغین) four hours, west by south, a castle dependant on Dizikh, occupied by the Usbeks. The road good and mountains retiring.

Bulak Mallachap, (بولاک ملاچاپ) four hours, west by south, a spring : no population.

Khisht Koperdek, (خشت کوپردک) two hours, west by south, a bridge of baked bricks over the river.

Kara Kalpak, (قراقلباق) one hour, west by south, a village occupied by the people so named, who are a branch of Usbeks resembling the Kazzaks : there are other stations of them on the road.

Darya Kohik. This is a river which comes from Derwaz and



Sirkol, and after irrigating the plain of Samarkand, and supplying Miankal, it passes to Bokhara, and furnishes that city and vicinity with water. After passing the river, we arrived at Samarkand; this river sends off a branch to Deh Bed, which is one fersekh and a half from Samarkand. The sons of Mohammed Amin, the predecessor of Mir Hyder, reside at Deh Bed, which is a pleasant place with many gardens.

The city of Samarkand, (سمرقند) two hours, west by south; a celebrated city, and the seat of the sepulchre of Amir Timur; a lofty building with an immense cupola: within it is a remarkable slab of a brilliant green stone, and above it is a plate with an inscription, with the name of Timur engraved on it. Formerly the dome was gilt, but Shah Murad Be stripped off the gilding, and took it away; it is now merely of stucco. The attendants are in much poverty; they told me that formerly they were supported by an allowance from the Emperors of Hindustan, which ceased with Mohammed Shah; and they wished to know if there were in India any of the descendants of Timur, whom they might apprise of their condition. The observatory of Mirza Ulugh Beg was formerly here, but it was demolished by Shaiban Khan, and there is only a mound of rubbish left.

The tombs of Khojeh Abdullah Ahrar, of Abul Mansur Maturidi, of the author of the Bedaya, and other eminent and illustrious men are also to be seen here.

Samarkand is defended by a mud wall, as well as a citadel of earth. The interior of the fort is inhabited, as well as the suburb; in the centre of the city is a large hexagonal building, surmounted by a cupola, and in each angle is a market. There are many large colleges in the city; the largest is the Madressa Khanum, but it is now in ruins. Some of the colleges are still maintained, as those of Shirnak and Tilakari, founded by Baling tosh Beg; the principal of the Shirnak college is named Abu Sayid; he is the chief cazy also, and is one of the most learned and amiable men in Samarkand. The Tilakari college has two principals and two scholars. Opposite to the Shirnak college is that of Ulugh Beg, in which is the chamber of Mullah Jami.

The Governor of Samarkand is Dowlet Be Kushbegi. Before the reign of Shah Murad Be, Samarkand was in an entirely dilapidated condition, and the colleges were haunted by lions and wolves. Shah Murad by great exertion re-peopled the city, and it increases daily in population. There are two markets a week, on Sunday and

Thursday. Horses of the Bokhara breed are cheap. The situation and climate of this city are delightful, and running streams supply it with water. A variety of tribes are to be met with in the neighbourhood, as Mohammedans from China, and Kapchaks, and Karakalpaks; formerly, perhaps, they were scattered in different cities, but they are now collected, and are all called Usbeks. The weight of Samarkand is, one tila, equal to one miskal, but the market miskal is equal to five tilas; five bazar miskals are one gharribek, two gharribek make one pashezek, two pashezeks one yetimék, two yetiméks one nimkhora, two nimkhoras are one nim charek, two nimchareks one charek, four chareks one seer, sixteen seers one maund. Weights were formerly differently reckoned, but they have been fixed at these rates during the last two years.

#### FROM SAMARKAND TO BOKHARA.

Rebat cherkhi, (رباطچرخي) three hours, west by south; this fort was built by Abdullah Khan: Cherkhi is the name of the village near the Rebat or fort.

Dowel, (دوول) two hours, west by south, a village with a river running past it.

Nasirabad, (نصيرآباد) one hour, west by south, a village: the road over a hilly country.

Kamárúk (قماروق) is a village near Nasirabad.

Ashek-ata, (عاشق آتا) three hours, west by south: it is the tomb of some illustrious person, and the village takes the same name; a large stream.

Karasu, (قراسو) two hours, west by south, a village with a mosque and mud walls: a custom station. Amir Hyder stationed a troop of Usbeks here, to protect the road from banditti.

Kitteh Kurghan, (كتةقورغان) five hours, west by south, a mud fort and walled village; it is said to be eight fersekh from Samarkand.

Rebat Abdullah Khan, (رباطعبداللهخان) eight hours, west by south, near a station of Tartars.

Kermina, (كرمينا) seven hours, west by south, a place of considerable extent in the district of Mian Kal: on the south is a sandy desert.

A mud fort, three hours, west by south, erected by Abdullah Khan. On the road are stations ; on the south a desert.

Iranchi, (ایرانچی) eight hours, west by south, a large village ; the same country prevails, and stations are numerous on the right of the road, whilst the desert continues on the left.

Mizar, five hours, west by north, the tomb of Khaja Baha-ud-din of Nakshebend ; gardens and stations occur on the road. On Wednesday there is a large maket for horses, asses, and all sorts of articles. The tomb is without a cupola, and on the north-west of the tomb is a mosque.

The city Bokhara, (بخاراشریف) two hours west. Bokhara is surrounded by a mud wall, and contains a citadel within which the king resides. The city abounds with squares and markets, and the suburbs with gardens. The inhabitants of Bokhara are natives of Iran, and Rúm, and Nogais from Russia, and people from Kabul, and Peshawer, attracted thither by the good government of Mir Hyder and the perfect security of travelling. There are many colleges and students. Each college has endowments in land ; besides which the king gives personal allowances to the teachers and disciples, out of the Máli Zikat, (or tax levied for charitable purposes) the rest of which is invariably distributed amongst the needy and distressed, and never goes into the royal coffers. All the affairs of the state are conducted by the king himself, without the assistance of any principal ministers, except Hakim Be, who when the king goes out from the city on any journey, is left in charge of the citadel and the administration of affairs. The collection of the Máli Zikat, and other imposts, is in the hands of Hakim Be also, under supervisal of the king: no other officer of the state has equal authority.

There is a market for horses four days in each week. On Saturday, Monday, and Thursday, it is held in the city, on the side of the gate of the desert near the citadel: on Wednesday, it occurs without the city near the tomb of Baha-ud-din. Horses of no value only are brought to market, their price is from ten to fifteen tilas: horses of higher cost, or from 100 to 150 tilas, are to be had of the dealers at their own houses, and are brought by brokers for inspection: but there are very few, and it would be difficult at any one time to collect from fifty to one hundred horses of this class. Mares are scarce here: those of the best kind sell for twenty tilas according to the price current; but it is not the custom to sell them at all, as they are kept for breeding, and it is only when the market

price is higher than usual that they are ever offered for sale. The usual number of horses for sale, on each market day, is about fifty or sixty, of which not more than five or ten are disposed of. The horses of Kará Shahar or the Uzbekí horses are small but hard working and strong, they are bred about Miánkál and Shehr Sabz, and sell for from seven to forty tilas: the Turkoman horses are of a good figure and active, but they do not, it is said, bear fatigue so well as the former; they sell for from twenty to one hundred tilas; they are brought from either bank of the Sihon and the country about Merv: they are now scarce. The Kazak horses are fat and low, but sure footed: they cannot bear heat: they used to abound in Kashgar and Yarkand, but of late years there has been much destruction of them in consequence of want of forage, and their being slaughtered for food in seasons of general scarcity. Asses of a large size and great strength, about as big as the ponies of Hindustan, sell at from one tila to twenty: there are no mules. The camels of the Kazaks are two-humped and well covered with hair, but they cannot endure heat: they travel well over mountains and in clayey and muddy soils, but they cannot carry equal burdens with the single humped camel. The tila is a small gold coin weighing one miskal, and passes for about twenty-one tangas: the tanga is a silver coin weighing one dírhem: on one face is stamped Zerbi Bokhara Sherif, and on the other, Amir Al Momenín, Amir Hyder. Rupees are not current.

I arrived at Bokhara on the 20th of Rebi-as-sani, A. H. 1228, (the 21st of April, 1813,) and took up my abode at the house of Karabash Bai, a merchant of Tashkend, with whose brother I had made acquaintance in Kashghar.

A caravan goes every year from Bokhara to Russia, and one comes annually from Russia to Bokhara: these caravans consist of 4000 or 5000 camels, and are two and three months on the road. The chief commerce of Bokhara is with Russia. The Russian caravan brings iron, copper, silver, silver and gold wire, seal skins and other articles: from Bokhara go coarse chintzes, cotton yarn, black sheep skins from Karakul<sup>1</sup>, &c.

The authority of this part of Turkestan is divided amongst various chiefs: the principal of them is Mir Hyder, king of Bokhara,

<sup>1</sup> That the people of Turkestan were well acquainted with the affairs of Russia, is shown by the account which Izet Ullah here inserts of the French invasion and burning of Moscow, briefly but correctly enough, as he had heard it at Samarkand. He also discusses at some length reports and opinions respecting the invasion of India by the Russians.

whose regular and irregular forces amount to 100,000 horse: he holds Bokhara and Samarkand, Miánkál, Kattakur, Karghan, Karmina, Kershi, and Kerakul, &c.

Amer Khan, the ruler of Ferghana, is next in power. I have already given an account of him, as well as of the third, or Mahmud Khan, the Wali of Uratappa.

The fourth chief is Niaz Ali Be, ruler of Shehr Sabz: he professes to consider himself dependant on Bokhara, but neither strikes the coin nor reads the Khotba in the name of Mir Hyder: his title in his own country is Wali Niámat.

The fifth is Sayid Be, ruler of Hissar.

The sixth and seventh are Murad Ali Beg and Dost Mohammed Beg, the rulers of the Kabadián.

The eighth is Allah Yar Beg, the chief of Kurghan.

Besides these the Kazáks, Kara Kalpaks, and Karghiz, who roam the plains, acknowledge no superior except their own chiefs: the head man of the Kazáks is called the Tura, but he has little or no authority.

Six Mohammedan cities, or Yarkand, Aksu, Turfan, Khoten, and two others, comprised within the limits of Mongholistan, are in the possession of the Chinese.

On the left of the Amu is the country of Kharizm, the capital of which is Urgenj: the chief is Mohammed Rahim Khan, who strikes the coin and reads the Khotba in his own name.

Mir Kilich Ali Khan, is viceroy, and Mir of Khulm; the nominal governor of Balkh is an Afghan, and it is considered a dependency of Kabul, but it is in the hands of the Mir.

Yilzor Khan, the son of Rehmet Ullah Khan, is the ruler of Andekoh, Murad Be of Kunduz, and Iraj Khan of Shirghan; Rahim Beg is chief of the Turkomans in Maimena; Mir Mohammed Shah is the ruler of Badakhshan, and resides at Faizabad, the capital: he is considered to be a descendant from Sekander Zulkernein, (Alexander the Great): Shagnan, near Badakhshan, has its own ruler: all these chiefs are unconnected with each other.

The tombs of Bokhara, either in the city or in its neighbourhood, are very numerous: amongst them are those of Hezret Said Amir Kulal, Khajeh Beha-ud-din of Nakshebend, Imam Abu Hefs Kabir, and Imam Ahmed Ghazali, of the author of the Shereh Wakaya, of Baba Paradoz (the darner) of Hezret Imlah and of Shah Murad Be Wali Niámi; this last has no dome nor turrets: they say that the earth from this last tomb has many healing qualities.

The kingdom of Bokhara comprises seven Tomans or districts, viz., Gbijhdowan, Wanghari, Kheirkosh, Waikand, Ramiten, Zendeni, and Werwanzi.

The city of Bokhara has eleven gates, which, beginning on the east, are as follows:—

The gate of the tombs, on the east, through which they pass to the sepulchre of Khajeh Beha-ad-din.

The gate of Samarkand, north-east.

The Imam gate, or that leading to the tomb of Imam Abu Hafs Kabir.

The gate of Aughelan, north.

The gate of Talbaghach or Talpach, north-west.

The Shirgeran gate, north-west.

The Karakul gate, west.

The gate of Sheikh Jelal, south-west.

The gate of the place of Prayer, south-west.

The gate of the Arsenal, north-west.

The gate of Kelbaghach, north-west.

The wall of the city is lofty, built of unbaked bricks, and the citadel built of the same materials, is situated on a mount within the city, on the north side near the Imam gate: it contains many buildings: the gate of the Fort is to the west, and within the gate are sixteen guns and five mortars, all dismounted. A large mosque is situated below the citadel on the west, in which the king himself reads the Khotba and performs the duties of Pesh Imam. In front of the gate of the citadel and the mosque there is a bazar. It is called the market of the sandy country: a gibbet is erected in it, on which murderers and highway robbers, and thieves who have thrice committed the crime, are suspended after being put to death according to the law. There is also a market every morning at day-break at the Chahar-su, or the square market: the place where it is held being of that form. On three sides there is access, but the fourth is closed: and on that side, books are sold. There are many hot-baths in Bokhara, and their use is very general.

There are eighty colleges in Bokhara, containing from forty to two or three hundred chambers. That of Kokultash, which is near the gate of Khajeh Beha-ud-din, contains three hundred. There is one Muderris to each college, and two pupils in each chamber. The colleges are supported by the rents of houses and the lands attached to them—their revenues vary from 300 to 5000 rupees a year: but the king also contributes yearly a portion of the Zikat,

and makes the principal professor an allowance of from five to fifteen tilas per month.

Twelve cos from Bokhara, on the north, runs the river Kohik, which comes from the mountains of Samarkand and flows to the west; canals are cut from the river which irrigate the fields and gardens about the city: every fifteenth day the water is conveyed to the public reservoirs, which are filled: the same water supplies the city and fort, and there are no wells. In the rainy season the people use rain water, after which they are extensively subject to the worm in the skin, especially in the leg, and knee. Little snow falls in Bokhara; but there is much cold and frost, and the cool weather lasts eight months—the other four constitute spring and summer.

The houses of Bokhara are like those of Peshawer; they are built of unbaked bricks, and are two or three stories high; the walls are thin and are strengthened with wooden buttresses: the markets are mostly covered in, and there are several Serais for the accommodation of merchants, as the serai of Alem Khan, where the Hindus from Shikarpur and other places alight. The hire of a chamber is one tila per month: the Hindu traders pay also the jezia to the king. They bring indigo chiefly, and tobacco. Another serai is the Nogha-i, where the Nogay and other traders put up: the Nogays are Musselmans subject to Russia, some of them are residents in Bokhara. There are about fifty druggists' shops in the city; but no skilful physician—the practitioners are all ignorant of the science; and when any medical professor comes along with the merchants from Peshawer or other places, he is held in very high estimation. The most common disease is the rishteh, (Guinea worm) and few people are free from it, like colds in Hindustan in the winter season; the people of Bokhara are very dexterous in the treatment of it, and extract it by incision, in this manner: if the head of the rishteh be near the wrist and the tail near the elbow, they carry the finger along it, to ascertain its course, and then lay the skin open with a lancet for three or four fingers breadth, a little below the head, which they draw back to the place where the incision began; they then make another incision of a similar kind, and so proceed gradually till they come to the origin of the worm, and remove it entirely. Other complaints are fevers, leprosy, and affections of the bowels. It happens sometimes, that where the physicians have engaged to cure the sick, and the patient has died, the heirs have demanded the price of blood; in that case the king has declared that when the physician knows his profession, he shall be held

acquitted; but if he proves an ignoramus he is condemned to pay the usual amercement—these cases are too frequent to be much attended to; but a physician leads but an uncomfortable sort of life in Bokhara.

The following are the dependant and contiguous governments:—

Samarkand, six stages to the east, governed by Daulat Be, the Kosh Begi of the slaves of the king, adjoining to Shehr Sabz.

Karakul, two stages on the west, governed by Kabil Be, the brother of Hakim Be. To the north and west of Karakul is a desart.

On the south the river Jihun (the Oxus) bounds Bokhara. Turkoman tribes are stationed along under its bank, under Niaz Beg.

On the north the country is inhabited but for two marches, and terminates on the north and north-west in a desart. The Hakim is Tora-khajeh, the king's nephew.

On the south-east is the district of Kilef, for eight marches along the right bank of the Jihun, to the confines of Balkh and Hissar, it is under Mir Rahim Kul, the king's cousin.

On the north-west are the districts of Khairabad and Ramitan, a stage apart, terminating in a desart.

Twelve stages to the south-west is the city of Merv Shajehan; the district of Meshed bounds Bokhara: a body of troops is kept up here, which is relieved from time to time.

On the north-east is the district of Dizzekh, nine marches, extending to the limits of Urtepeh.

There are about three hundred officers of the government, entitled Amirs and Khans<sup>1</sup>. *Be* and *Mir* are titles of the Sirdars; the latter implies a higher grade, as the Vizier is called Hakim Be: the father of the king was also known by that title. The king's troops on the rolls, according to the best informed persons, are said to be 80,000 horse, but according to general report they are above 100,000. The king's troops receive regular pay. About 10,000 of them are stationed at Samarkand, and as many at Merv. The choicest are at Bokhara, and in its vicinity. Lists describing each man and horse are kept by the king.

The revenues of Bokhara are derived from three sources—the land-tax, the customs, and the tax on unbelievers: the first is collected according to registers kept in the time of Amir Timur, and varies from a half to a tenth of the produce; the second is one in forty of the value of all goods bought and sold; but it is levied only

<sup>1</sup> The original gives an account of several of the principal of them.



once a year, and the merchant who has paid this duty on his merchandize, may transport it where he pleases, without further demand. A tax in kind is also levied once a year on all persons possessed of flocks and herds.

The Jezia is levied on all not of the Mohammedan religion, as Jews and Hindus; it varies from one tanga to four per head, on males of mature years, according to the circumstances of the parties. The Hindus come from Shikarpur and Cabul, and remain only from six months to a year, or sometimes two years; there are none permanently settled. The Jews occupy about 1000 houses in the city near the arsenal gate; they are employed in silk manufactures and dyeing, or as butchers, and in merchandize: this tax is the king's personal property, the others are entirely appropriated to public purposes. Mir Hyder is about thirty-five years of age; he is tall, and well made; he is naturally of a fair complexion, but by the fervour of his religious exercises and fasting every third day throughout the year, as well as by his assiduity in the administration of justice, he looks pale and sallow; he wears his beard of a round cut, and an Usbeki cap on his head, with a turban bound round it like an Arab turban; his dress is a kind of tunic, over which he wears a jama and a kemerband, with a dagger, and a robe of a brown colour over the whole; his legs are protected by short boots of the kind called here masah, but without heels.

He rises in the middle of the night and reads the prayers of the season, and then pursues moral and religious occupations till daylight, when after the prayers of dawn, he give a lecture to about forty or fifty students on the traditions of the Prophet and in explanation of the Koran. He then takes his place in the court, kneeling on a velvet cushion, and receives in the usual form the salutation of his courtiers; each as he enters at the door pronounces with a loud voice Salam ali-kum, and then passes to and kneels at his appointed place; the salutation is returned by a person appointed to that duty, who replies Alikum Salam on the part of the king: in this audience holy men and the teachers of the law sit on the right hand of the king: the Khans on his left: all are on their knees. Hakim Be remains standing in front of the king; the royal attendants also stand near the king on his left: all the men of the law and Khans when they come to court are dressed in precisely the same costume. Those who are newly arrived put on the Usbek dress for their introduction: they are met by a mace-bearer at the door of the hall of audience, and led towards the king: they stop at some distance, and exclaim, Salam Alikum: they then

advance some paces, when two servants taking the person by either arm, lead him to within a short distance of his majesty. If the king present his hand, the person kisses it; if he direct him to be seated, the attendants conduct him to a place suited to his rank. On his sitting he pronounces a compliment to the king, and then states what he may wish to represent. Embassadors are maintained at the king's cost.

After the levee is over and the persons who assisted at it are dismissed, the Chobdars announce to all who are collected about the gates every morning, that if they have any representation to make, they may advance, and they are all admitted and made to sit down before the king, who reads their petitions, and pronounces a decision on their cases according to the legal authorities, copies of the principal of which lie on cushions before him. At noon, a few of the chief learned men are admitted to hold disputations in the royal presence, and the king not unfrequently takes a part in them. He then acts as Pesh Imam for the mid-day prayers, when the investigation of private and public affairs is resumed, and continues till afternoon prayers. The same occupations are then followed till evening. Evening prayers are said, and some short time afterwards food is taken; the prayers of the night are then repeated, and the king takes his repose, for about a watch and a half (or four hours and a half). If any cause requires a protracted investigation, it is referred to the Kazi, who must decide according to the law, through fear of the Amir, the general familiarity of the people themselves with the laws, and their ready access to the king. Every Wednesday the king goes in pilgrimage, on foot, to the tomb of Beha-ud-din. A report of every death is made to him, on which he mounts his horse, goes to the dwelling of the deceased, and reads the prayers for the dead himself: he also reads the Khotba and conducts the religious service at the great mosque every Friday himself. After the service he inspects his troops, and then holds a levee, at which the chief men of the city and environs make their salams.

The king has four wives besides slaves, and one son, sixteen years old, named Tora Jan and Tora Shahzada. He has two brothers, Nasr-uddin Khan Mir Zada, who is at present in Meshhed, where he receives an allowance of three tomans, or thirty rupees, a month, from the Prince of Persia, Mohammed Mirza, son of Fetteh Ali, who is governor of Meshhed. The other brother is Mohammed Hosein Khan, residing in Shehr Sabz with Neaz Ali Be; but supported by Mir Hyder. Shehr Sabz is a city independent of Bokhara, it is six stages to the north of east from Bokhara, and south by east

from Samarkand, two stages, amongst the mountains. It has a great number of small streams.

The commander of the watch patrols every division of the city during the night, and before he sets out, has the drum beaten, that every one may betake himself home. Every person found in the street after beat of drum, is detained till the morning, and then particularly examined, and treated accordingly.

The morning meal of the people of Bokhara and of all the tribes of Turan, is tea with milk, in which bread is dipped and eaten. Towards evening they have a second meal of pilao or broth with bread, and meat chopped fine, or dressed with barley or rice: after this they again take tea. Bread is sold in the bazaar, so that whatever quantity is required may at once be had. The bread of Bokhara is very famous; it is usually kept for many days after it is baked. The melons of Bokhara are very fine, weighing sometimes ten Delhi sers; they are very sweet, and remain fresh for seven or eight months, but they lose something of their flavour by keeping and in cold weather. Grapes are abundant and fine; so are the water melons. Nuts, apples, and pomegranates, are in great plenty.

In the month of November, the Usbek and Bulghar traders arrive at Bokhara, from the Russian territories, and bring the following articles for sale:—copper, brass, iron, steel, silver, mercury, coral, cochineal, candied sugar, white paper, broad cloths, flannel, seal skins, and iron, and japanned vessels.

In January, the traders return to Russia, taking with them, cotton, cloth, and thread, coarse chintzes, shawls, Karakul black sheep skins.

Russia is two months' journey from Bokhara north inclining to west; the road lies across the Sihon which is frozen over in winter, and the caravans cross it upon the ice: the country beyond it is desert, and the Kazzak tribes, who occupy the tract, live wholly upon the produce of their flocks.

From Bokhara, the Kabul merchants take horses, horse-cloths, copper, jámás of various patterns, and brocades, silver, turquoises, coral, silk, tea, porcelain, silk handkerchiefs, Cshirras.

From Kabul and the Punjab, the following articles come to Bokhara, shawls, turbans, handkerchiefs, chintzes, sugar, coarse and refined, turmeric, round pepper, and law books.

There is no fixed rate of exchange with Bokhara, but bills are procurable from the Hindus of Shikarpur, on their agents at Bokhara, at a considerable premium, twenty or twenty-five per cent. If a

person carry coin, he loses immensely, owing to its not being current; he loses less if he buy bullion at Kabul, and take it to Bokhara: but that is unprofitable, as gold and silver are cheap at the latter place, and the Hindu merchants buy it to a large amount, and send it on camels to the Punjab. On this account, bullion and money are rarely sent from Kabul, and goods only are remitted.

The prices of articles at Bokhara are as follows:—

Wheat . . . . .	one maund . . . . .	15 tangas.
Flour . . . . .	one maund . . . . .	18 tangas.
Barley . . . . .	one maund . . . . .	14 tangas.
Juwar . . . . .	one maund . . . . .	12 tangas.
Fine rice . . . . .	one maund . . . . .	3 tilas.
Meat . . . . .	one charek . . . . .	1 tanga.
Sheeps tails . . . . .	one charek . . . . .	1 tanga.
Ghee . . . . .	one charek . . . . .	4 tanga.
Fuel . . . . .	an ass-load . . . . .	1 tanga.
Fodder for a horse for 24 hours . . . . .		$\frac{1}{2}$ tanga.

Copper and other metals are weighed with stone weights; one man is equal to 27,392 miskals of gold, which is equal to 19,957 rupees, or 3 maund 17 seers, Delhi weight.

The Bokhara maund contains 16 weights of two half seers:—

A2 half seer . . . . .	contains . . . . .	4 chareks.
1 half seer . . . . .	contains . . . . .	2 chareks.
1 charek . . . . .	contains . . . . .	4 nimchehs.
1 nimcheh . . . . .	contains . . . . .	2 nim nimcheh
1 nim nimcheh . . . . .	contains . . . . .	10 miskal of stone or 53 half miskals of gold.

Hakim Amir or Mir Hyder has adopted the title of Amir al Momenin. His father, Shah Murad Be, was entitled Wali Niamat: he is of the Munkid tribe of Uzbeks, and his great grandfather Khodayar Atalik was a celebrated warrior, who first obtained the rank of Atalik: Atalik means viceroy or representative of the prince.

A grandson of Khodayar, named Rahim Khan, the cousin of Mir Hyder's father, hastened to Bokhara on the death of Nadir Shah, and sent a fictitious order with Nadir's seal to the governor of the citadel, named Abulfaiz Khan, to abandon the fortress: the governor having in obedience to the supposed mandate quitted the place, it was seized by Rahim Khan, and Abulfaiz Khan was thrown into confinement. Several of the neighbouring chiefs prepared to take part with Abulfaiz Khan, when the usurper put him to death; but he raised his son Abdul Momin, a child seven years old, to the Mesned, by the title of Khan, whilst he professed to be only Atalik;

he also married the daughter of Abulfaiz Khan. In this manner six years and a half passed away, by which time Abdul Momin, being a youth, several of his adherents undertook to put Rahim Khan to death. At a dinner, to which he was invited by the prince, he was fired at by a person stationed privately for the purpose: the ball lodged in his cap, but he escaped, and the attendants of the prince were immediately slain by his followers. Six months afterwards, having led Abdul Momin Khan to the edge of a well, some of his people threw the lad into it, and he was drowned; when it had been long enough under water, the body was drawn up. The direct line of Abulfaiz Khan being thus extinct, Rahim Khan as the son-in-law of that prince, assumed the title of Khan, and governed Bokhara for two years and a half: he left no children, and Daud Be, one of his slaves, taking upon himself temporary authority, invited Daniel Be, the uncle of Rahim Khan, who resided in Karmina to succeed to the Mesned. He declined the title of Khan, and relinquished it to Abulghazi Khan, son of Ibrahim Sultan, a descendant of Changhiz Khan, retaining however the territory of Bokhara. Ibrahim Sultan was the nephew of Rejeb Mohammed Khan, the enemy of Abulfaiz Khan: he was said to be a descendant of Abdullah Khan. After the death of Daniel Be his son Morad Be succeeded and continued for two years to acknowledge the nominal supremacy of Abulghazi Khan; but after that period he exacted a formal grant of the territory from that chief, and, disregarding the title of Khan, he procured a sened from the Sultan of Rúm, appointing him his viceroy, and adopted the title of Wali Níamat: the rank that was granted by the Sultan of Rúm to Morad Be, was that of Kurchi Bashi: that to Mir Hyder is Mir Akhor Bashi: but the real nature of these dignities I could not exactly ascertain. After the death of Morad Be, his son, Mir Hyder, succeeded; and at first had impressed upon his coin Sayid Amir Hyder Padshah Ghazi: he applied for the confirmation of his authority to the court of Rúm, and adopted all the insignia of sovereignty. At the end of two years he laid the state of Sultan aside, and imitated the unpretending style of his father, assuming the title of Amir al Momenin. In 1813, he had reigned eighteen years,—and has proved himself in every respect a prudent, just, pious, and able prince: he is, however, somewhat capricious and hasty towards those about his person,—and when displeased, disgraces, or even puts them to death without any investigation.

Mir Hyder is the son of Shems-ban-aim, the daughter of Abulfaiz Khan: after the death of Rahim Khan this lady was married by Morad Be, and their progeny was the present sovereign.

Abulfaiz Khan was Sultan of Bokhara forty years: the sovereignty was acquired by his ancestor in the fourth degree Baki Mohammed Khan, a descendant of Changhiz Khan.

After the downfall of Abdullah Khan the sovereignty descended to Wali Mohammed Khan: but he becoming suspected of adhering to the Rafzi sect was expelled, and Baki Mohammed raised to the Mesned in his stead.

Baki Mohammed resided in Aferin Kanit, a place near Samarkand. Imam Kuli Khan, his son, attacked and captured Meshhed: he married the daughter of the Governor, a Sayid, and had by her Nazr Mohammed Khan; and the family thence assumed the title of Sayid. Imam Kuli Khan reigned forty years. Abdul Aziz Khan, the son of Nazr Mohammed, reigned sixteen years: when he abdicated in favour of his brother Subhan Kuli Khan, and set off on a pilgrimage to Mecca: he died on the road. Subhan Kuli Khan had three sons, of whom Abdullah Khan succeeded his father and reigned fourteen years: he was an active prince, but having given offence to his Usbek followers by his leaning to the Shiah faith, was killed by them, at the Eidgah in Bokhara, and crowned with the honours of martyrdom. He was succeeded by his son, Abulfaiz Khan Mohkim Khan. Another son of Subhan Kuli Khan, was made king of Balkh, in the lifetime of his father, until he was attacked and slain by Mahmud Khan, the son of Beg Murad Uzbek of Kattaghan, who seized upon Balkh. Abdullah Khan revenged his uncle's death, and expelled and slew the invader.

[The route from Bokhara to Kabul, followed by Mir Izzet Ullah, has been so frequently travelled since his time, and is now so well known, that it were superfluous to continue his itinerary further.]

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ART. XXXII.—*Grant to the Early Christian Church of India.*

THE six lithographs which follow contain fac-similes of a grant made to the Syrian Church in India by one of the early native princes. The original is engraved on both sides of six copper plates. An account of the loss of these plates, or of their abstraction by the Portuguese at the close of the sixteenth century, and of their rediscovery in 1806, is given in a memoir printed in the first volume of the Society's Journal, page 177. The fac-similes were procured for the Society through the kindness of F. C. Brown, Esq., from the Rev. B. Bailey, Principal of the College of Cottayam, where the originals are preserved.

Whether this grant be the original one said to have been made to the Armenian Christian, Thomas Cana, or that which was conferred on the Indian Church by the Perumal princes, in the ninth century, does not seem clear. The writer of the memoir above mentioned supposes it to have been the former; and he makes Thomas Cana cotemporary with the Perumal princes, in which he follows the Portuguese historian, Gouvea. But the epoch of Thomas Cana was much earlier, as is shown by Assemanni; and it is placed by Archdeacon Robinson in the fifth century. The Arabic signatures in the sixth plate are decisive against such a high antiquity as this supposition would infer; the character not being then in use. But, in fact, it is by no means certain that there were two grants; one only is spoken of by Assemanni, which he states was seen by Menezes in the year 1599; and his description is identical with that of the renewed grant, as given in page 178 of the memoir above referred to, and by Archdeacon Robinson, in page 11 of the first volume of the Madras Journal.

The first five plates appear to be in the ancient Karnataka character, with the exception of a name in Devanagari, which occurs three times in the first three plates. The sixth plate contains the signatures of the witnesses. Eleven of these are in Cufic, ten appear to be in a cursive form of Syriac, and four in Hebrew. The former were supposed by the writer of the memoir to be in the Persepolitan cuneiform character; and the curiosity excited by this announcement led to the acquisition of the fac-simile by the Society. This

part has been read by Mr. Shakespear, who states, in a note which accompanied his transcript, that "a few of the proper names remain doubtful. At the beginning, and on the edges or sides, some obliteration has taken place; and conjecture must be admitted to supply the defects thus occasioned."

The following is Mr. Shakespear's reading:—

[وشهد] لذك مامون بن ابر  
 هيم وشهد محمد بن منيع (?)  
 وشهد صالح (?) بن علي وشهد  
 عثمان بن المرزبان (?) وشهد  
 محمد<sup>1</sup> بن يحيى (?) وشهد عمرو بن  
 ابراهيم وشهد ابراهيم بن  
 الكندي (?) وشهد بكر بن منصور  
 وشهد القاسم بن حميد (?)  
 وشهد منصور بن عيسى (?) و  
 شهد اسمعيل بن يعقوب

<sup>1</sup> The fore part of this word is obliterated, and perhaps أحمد was intended.



Handwritten text in a rectangular frame, likely a manuscript page. The text is written in a cursive script, possibly a form of Pahlavi or Old Persian. The characters are dense and interconnected, typical of ancient cursive writing. The text is arranged in approximately 12 horizontal lines within the frame.

*W. Morley facs.*



Handwritten text in a script, possibly Tamil, enclosed in a rectangular border. The text is arranged in approximately 12 lines, starting with characters like 'பு' and 'பு'.

Handwritten text in a script, possibly Tamil, enclosed in a rectangular border. The text is arranged in approximately 12 lines, starting with characters like 'பு' and 'பு'.



Handwritten text in a script, possibly Burmese, arranged in approximately 15 lines within a rectangular frame. The characters are dense and stylized.

Handwritten text in a script, possibly Burmese, arranged in approximately 15 lines within a rectangular frame. The characters are dense and stylized.



Handwritten text in a script, possibly Tamil, arranged in approximately 10 lines. The text is contained within a rectangular border and is significantly obscured by dark, irregular ink smudges and blotches, particularly on the right side and bottom. The characters are dark and appear to be a form of South Asian script.

*Plate 5. recto*





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Plate 3 10



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Plate 6, verso

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Plate 6, recto



ART. XXXIII.—*Account of the Atesh Kedah*<sup>1</sup>, a Biographical Work on the Persian Poets, by Hajji Lutf Ali Beg, of Ispahan, by N. BLAND, Esq., M.R.A.S.

(Read June 24, 1843.)

در طوف حرم دیدم دی مغبچهء میگفت  
این خانه باین خوبی آتشکده بایستی

THE history of the Persian poets is the history of the Persian nation; it is the biography of their greatest men, whose lives, whose actions, whose feelings, and whose tastes, are all, in a greater or less degree, associated with poetry and influenced by poetic impulse. This influence was exercised over the highest potentates by the most subordinate of their subjects. Their graver historians supply countless anecdotes of men exalted to rank and power, and enjoying the unlimited favour of their Sovereign by this sole merit. Lives have been sacrificed, or spared—cities have been annihilated, or ransomed—empires subverted, or restored—by the influence of poetry alone. Armies, levied to avenge the insult of an epigram, have been disbanded at its palinodia; the prison has opened its gates to the ingenious author of an impromptu; stanzas have saved a suppliant's life, and a well-turned compliment in verse more than once soothed a breast in which dwelt all the undisciplined passions of Eastern despotism. Even history itself is indebted to this taste, and if not written in verse, its pages are enriched with metrical fragments and quotations, while the earliest annals of the Persian empire are preserved in the poetic legends of the Shah Nameh.

To the biography of their poets, and the critical examination of their works, many learned Persian writers have devoted their labours; in most cases the biographer has been himself a poet, and, from this association of study and inclination, has been the better qualified for his task, both in doing justice to the subjects of his memoirs, and in making a skilful selection of extracts as specimens of their talent. Thus Jámi, who, in his Baháristán, has devoted a chapter to literary

آتشکده تصنیف لطعلی ابن آقا خان متخلص بآذر

history, was himself a poet, if not the first, at least among the first, in each style of composition. Sám Mírzá, author of the *Tuhfahí Sámí*, and Dowlatshah of Samarcand, also possessed poetic talent, though, perhaps, not of a high order. The learned Amír Ali Shír, who wrote the biographical work *Majális al Nafáís*, has left numerous and admired poems in the Persian and Turkí languages. Of all such compositions, that of Dowlatshah has been considered to hold the first place, and, up to the present time, has usually been quoted as the best, and often as the sole authority to be consulted, so that the title "*Tazkirat al Shuara*," has been emphatically, and almost exclusively applied to that, which bears his name. It is, however, far inferior to the *Atesh Kedah*, both in the number and extent of its memoirs, and in the bulk of its contents. The *Baharistan* comprises only thirty-eight of the earlier, or more admired poets. Dowlatshah gives one hundred and forty<sup>1</sup> memoirs, terminating with those of his contemporaries. Dowlatshah's work was finished A.H. 892 = A.D. 1487. Sám Mírzá, son of Shah Ismail, completed the list by the addition of the more modern writers. Hajji Lutf Ali Beg, the author of the present work, with which he was still engaged in the year 1179 = 1765, includes in it the period of two centuries, which occurred between the age of the *Tuhfahí Sámí* and his own time, and presents us with the memoirs of *eight hundred and forty-two* poets, ancient and modern; many of them otherwise new to biography, and whose merits would have remained unknown to posterity, but for his labours of compilation and the advantages he so eminently possessed as their historian.

The earliest mention of the subject occurs in Von Hammer's *History of the Persian Poets*<sup>2</sup>, published in 1818, in which, after enumerating the principal sources from which he had derived his materials, he names the *Atesh Kedah*, as existing in a collection of manuscripts brought from the East by M. Rousseau<sup>3</sup>, French Consul

<sup>1</sup> Exclusive of the ten *Arabic* poets contained in the *Mucaddamah* of his work.

<sup>2</sup> *Geschichte der schönen Redekünste Persiens*, &c., von Joseph Von Hammer: Wien, 1818. Vorrede, p. vii.

<sup>3</sup> It was thus announced in the second part of M. Rousseau's catalogue of his collection, p. 14 :—"(*Kitab*) *Talif Hadji Lotfali Beg: Pyrée poétique, ou Histoire abrégée des poètes anciens et modernes de l'Yran, du Touran, et de l'Inde, depuis l'époque où ils ont commencé à fleurir dans ces trois empires jusqu'au règne de Kérim Khan (1770 de notre ère), avec une notice succincte, et des extraits de leurs plus belles productions; par Hadji-Lotfali-Beg, surnommé Azir, ouvrage dans le goût de celui de Devlet-Chah, mais beaucoup plus étendu, et dirigé suivant la division géographique des provinces et villes où ces poètes ont vu le jour, &c.*"

in Syria, and of which he regrets his inability to obtain a perusal for the completion of his history, and directs the attention of Orientalists to it in their future researches. In 1835 a small parcel of Persian books, offered for sale by a party returned from India, was found to contain a very elegant little manuscript, which proved to be a copy of the desired work. A second, larger copy of great beauty, was obtained from the collection made by the accomplished editor of the Shah Nameh, Major Turner Macan<sup>1</sup>. The possession of these two enabled me to contemplate the publication of the book, either in the original, or in translation, and the announcement obtained for me further information. In the rich and extensive Persian library at the East India House, Professor Falconer had already made use of a fine manuscript of the Atesh Kedah, presented by Lieut.-Col. William Kirkpatrick<sup>2</sup>, of which the learned Professor afterwards found another derived from a different source<sup>3</sup>. The unrivalled collection of Oriental manuscripts of a Right Honourable Vice-President of this Society contains also two valuable copies; and the existence of one in the library of the British Museum was communicated to me by Mr. Cureton. In the meantime the manuscript, originally offered to public notice by M. Rousseau, had passed into the possession of the Russian Government, by whom it was purchased in 1818<sup>4</sup>.

Thus, almost from non-existence, multiplied copies arose, all in good preservation, and mostly perfect and correct; each possessing some peculiar advantage, which makes it desirable for collation. A similar circumstance had occurred in the almost simultaneous discovery<sup>5</sup> of portions of Rashid-al-Din's great history, before supposed to be lost; and it will not surprise any Oriental student, who was in the habit of frequenting our public libraries in former years, how copies of such valuable works should so long have existed inaccessible to the inquirer, as they were unknown to those who had the care of them.

<sup>1</sup> The work is alluded to in Major Macan's Introductory Remarks, as the "*Atush Kudda*" of "*Lootif Ali Khan*."

<sup>2</sup> Presented 30th May, 1804; brought from Persia in 1801.

<sup>3</sup> Bibl. Leyden.—Presented to Dr. Leyden by Lieut.-Colonel Malcolm, in 1806, at Calcutta.

<sup>4</sup> It was from this copy that M. Charmoy, at that time Professor at the Oriental Institute at St. Petersburg, made the extracts of the lives of Nizami, and some of his contemporaries, inserted, in translation, in his edition of the "*Expédition d'Alexandre le Grand contre les Russes*," from the Iskender Nameh of that poet. The text of the memoirs extracted was to appear in the second volume, which, it is much to be regretted, has not yet been published.

<sup>5</sup> Journal of the Royal Asiatic Society, vol. vi., art. 2.

There are, therefore, eight copies of the Atesh Kedah now before the public, of which seven are in England, being, I should suppose, nearly all which are now to be met with, and the manuscript of St. Petersburg seems to be the only one existing on the continent. The means of consulting the work being, however, still somewhat circumscribed, a few particulars<sup>1</sup> of its object and contents may not be deemed uninteresting, together with a sketch of the author's life, and his qualifications as a biographer, a critic, and a poet.

Lutf Ali's work differs very materially in arrangement, as well as in extent, from all others on the same subject. Instead of the chronological order followed by Jami in the Baharistan, and Dowlatshah in his Tazkirah, or the classification of rank and profession adopted by Sâm Mírzá, our author has arranged his book in geographical sections, the poets being placed in alphabetical order, under the names of their native town, or the place of their abode. The arrangement is very fully explained in the preface. On the whole, this plan, though liable to some objection, may be considered preferable. It admits many topographical notices, which, though concise, are useful, and which may even serve to supply deficiencies in works more strictly scientific. It is also not without its peculiar interest, as affording a comparative view of the riches of Persian literature; a kind of statistic of poetic talent, which, by a glance at its contents, enables us to form a tolerably good estimation of the resources of each province, district, and town, throughout the wide empire where Persian belles lettres were cultivated, and of the proportion in which each contributed to the great bazar of literature.

The title of the book itself is, in one respect, remarkable. The *Atesh Kedah*, (Fire Temple, or Temple of the Magi,) seems certainly a strange name for the composition of a Mahometan. The author, in his preface, ingeniously argues for the aptness of the title, but gives no reason for adopting one alike repugnant to the prejudices of a Shíah or a Sunni. Allusions to the sacred fire of the Ghebers, and the Magian worship, are freely admitted in Persian poetry, and in the Diwan of Hafiz, in particular, are abundant to excess; though in his verses, as in those of most of the so-named Sufis, such allusions, even if not allegorical, very little impair the credit of their

<sup>1</sup> Since arranging these sheets, I have been favoured with a sight of the "Par-nasse Oriental," a dictionary of Eastern poets, published within the last two years at Algiers, from the papers of the late Baron Rousseau, before alluded to. Though frequent reference is made in it to the Atesh Kedah, and notice taken of some of the poets mentioned in this memoir, I have not found it necessary to make any material alteration in the arrangement I had proposed to myself.



orthodoxy, which is, at the best, far from being above suspicion of reproach.

It is to be regretted, that in this, as in other similar compositions, the biographical part bears a very small proportion to the anthology, the memoir of each poet being generally restricted to the praise of his various acquirements, and containing few more particulars of his history, than the place of his birth, or residence, and, perhaps, the time of his death; to which is sometimes added the name of his teacher in spiritual, or secular lore, and the profession, or pursuit of the poet: these, with the pilgrimage, and the desultory movements of the student in pursuit of knowledge, the Derwish visiting the sacred shrines, or the courtier flying from the resentment of a capricious and offended patron, form the whole particulars of their private life; and it is to this characteristic monotony of Eastern manners we must attribute the meagre and unsatisfactory nature of such details as their biographers afford us.

The MSS. of the Atesh Kedah vary in bulk from 240 to 300 folia, a full page usually containing in the proportion of one hundred lines of verse written in four columns; from this a tolerably good idea may be formed of its contents. The preface occupies four pages, in which the author indulges in all the luxuriance of that fanciful style of composition, which is so congenial to Persian taste, and is so diligently cultivated by their most admired writers. The *Berâati Istihlâl* (براعتِ استهلال) a favourite figure of their rhetoric, is here strictly followed, and the title of the work preserved in countless metaphors drawn from the element to which it is devoted, and reproduced in every variety of allusion, which Mahometan literature and mythology afford. The commencement, as the exordium of a pious Mussulman, recites the praises of the Deity, glorified successively with a selection from the "*Excellent Names*," and illustrated by appropriate instances of His greatness, wisdom, and mercy. Thus, in the Creation, His glory shone forth in the ray of light, which ennobled *Adam*, while His vengeance drove away *Eblis*, the proud angel, who boasted his *fiery* origin<sup>1</sup>. Thus, the accepted<sup>2</sup> sacrifice of *Abel*, and the rejected offering of *Cain*, are cited as examples of power and graciousness, exhibited through the same element, harmless or consuming. By His mercy, the fire of his

<sup>1</sup> اسمها الحسنی The excellent or beautiful names—the attributes of the Divine Being.

<sup>2</sup> خلقتني من نارٍ وخلقته من طين Cor. xxxviii. 77.

<sup>3</sup> Cor. v.

idolatrous persecutors became "cold and a preservation unto Abraham"; the flame of His hell received the rebellious *Nemrud*<sup>1</sup>, and the fire of His wrath destroyed the accursed *Pharaoh*<sup>2</sup>. Fire, under the same All-powerful direction, became the guide of *Moses*<sup>3</sup> in the burning bush of Towa.

The element fire is next examined, as the type of love; a metaphorical connection, which has been conceded to it by the poets of all nations; but here it is the indication of Divine love, prevailing over universal nature, animated and inanimate. The attachment of the moth to the taper—of the bulbul to the rose, furnish poetical illustrations of this favourite theme;—the tulip blackened at the core with the fire of love;—the anemone, whose cheeks are glowing with admiration of Divine beauty. It pervades the seasons: the spring-cloud is but smoke from the stove of the Creator's laboratory; the breeze of the north, at His command, quenches the burning anguish of the rose, while the autumn rain descends as oil upon the lamp of the tulip: the cypress towers with its spiry top towards heaven, like the ascending smoke of lovers' sighs; the turtle-dove (*Cumri*) sits in ashes from the consuming fire of its passion.

From the praise of Divine excellence, which has been declared, in the beginning, to be "the splendour of the Fire-temple of the heart, and the flame of the firebrand of the tongue; the glowing of the furnace of the body, and the sparkling of the embers of the soul," the author proceeds to the exaltation of the Prophet, which must invariably occupy the second place in an orthodox Mahometan preface. Him, he declares, in a similar style of allusive imagery, to be "the taper of the assembly of creation"—the "lamp-lighter of the banqueting-hall of existence; in comparison with the world-illuminating sun of whose essence, the universality of existing beings are but an unenduring atom, and in competition with the boundless sea of whose excellence, the totality of created things are no more than a worthless drop." The greatness and glory of the Prophet are set forth in illustrations similar to the preceding, exemplified in the honours of the *Máráj*, and the judgment on *Abu Leheb* condemned to "flaming fire". Next follows the praise of *Ali*, the Prophet's cousin, by which the biographer takes the earliest opportunity of

<sup>1</sup> Cor. xxi. 69.

<sup>2</sup> Cor. xxi.

<sup>3</sup> Cor. xl.

<sup>4</sup> Cor. xx. 12.

These exemplify the first four of the forty Fires of Arab imagery enumerated by *Es-Saalebi*, and in the *Keshkul*. See *CEstreich*, *Central-Organ für Lit.* July, 1842.

سَيَصَلِّي نَارًا ذَاتَ لَهَبٍ<sup>5</sup> Cor. xxi. v. 3.

establishing the orthodoxy of his creed, and glorifying the patron of that sect, which was peculiarly favoured by the Safavean dynasty, and from whom he derived his name, Lutf Ali, *the grace of Ali*. After this he conducts the reader through a tedious, but learned dissertation, in which are discussed the excellence of the gift of speech, and the respective merits of prose, and verse, and in which he combats the Coranic censure on the poets, "whom those who err, follow," and vindicates his fraternity from similar aspersions conveyed in Arabic proverbs and traditions; and finally enters on the subject of his work, and his reasons for undertaking it; saying that, "from the age of early youth when the gardener of love had nourished the tender shoot of his existence in the garden of fidelity, and given it culture by the moistening rain; when, by degrees, moving from his mother's lap to his father's arms, he was from thence confided to the care of a preceptor, by whose affectionate zeal his eye derived light from a book, and his hand made acquaintance with the pen;" yet, withal, love and poetry were so natural to his disposition, that "the only letter of the book he read, was affection, and the only character his pen traced, was friendship: his tongue chaunted but the song of love and beauty; and his ear hearkened only to the tale of sincerity and affection. Constantly treading this rosy path, and the bulbul of his soul occupied continually in warbling these lays; no fancy engaged his mind, save that of poesy, sweet fruit of the garden of love; no thought, but verse, the ray of affection's lamp." With these inclinations, the destiny of young Lutf Ali was fixed, and habit and education made him a poet, and the friend of poets. His time was now spent entirely in perusing the writings of the earlier authors, and in frequenting the society of those who were his contemporaries. These pursuits and studies he was, however, unable to gratify, as fully as his heart desired; many works of the ancient poets were difficult to procure, and his intercourse with the modern writers was subject to frequent interruptions and disappointments; so that he became dissatisfied with the enjoyment he already possessed, from the desire to obtain more. His remedy was obvious: to make a collection of the lives and sayings of poets, both contemporary and those of former times, so that, "should his heart at any time desire to read the writings of the earlier authors, the sight of this thornless rose-bed, rivalling with its fragrant herbs of diction the parterres of the garden of paradise, might gratify the soul by its scent; and whenever his mind should be disposed to seek the society of his contemporaries, the view of this sorrowless treasure might with the splendour of its jewels of

eloquence, rejoice the ear of the soul, in emulation of the Wádi Aymen."

When the number of the author's years had extended from thirty to forty, he had "collected lapfulls of the tulips and roses of Casidahs', and filled his skirts with the basil and hyacinths of Ghazals', and had stored his treasury with the rubies and yacuts of Mesnawis', and the silks and brocades of Rubá'is'; or, in other words, he had attentively read, and carefully selected from, the best Diwans, which he had an opportunity of consulting, and when they were not accessible, had made use of various Tazkirahs; and, in like manner, for those of his contemporaries, either from his own inspection, or from the dictation of persons of taste; and whenever he found in history any mention of the poet's place of birth or residence, he noted it down, with a short geographical description, arranging its natives or inhabitants alphabetically, without regard to order of chronology, or precedence of rank or merit, with the extracts from their works, according to their final letter. This book he named the *Atesh Kedah*, or *Fire Temple*, because he thereby devoted to the fire of envy all preceding Tazkirahs whatever; and he furnished the whole with a Fihrist, or table of contents, for facility of reference."

While he was engaged in its arrangement, a young poetaster of his acquaintance, "unripe in judgment as he was immature in years," proposed that some of his own compositions also should be inserted, to embellish the anthology of this work, which sacrifice to vanity Lutf Ali directly refused, telling him that this was "truly a Fire Temple, in whose furnace *thorns* would be consumed, but *roses* turn to delicious attar, to rejoice the senses."

The author then gives an account of the divisions of his book, which, in conformity with Eastern practice, bear an allusion to its title, under the names of *Censers*, *Flames*, *Firebrands*, *Flashes*, &c.<sup>2</sup>, and which, from the difficulty of finding corresponding terms in translation, make the arrangement appear somewhat unlogical. Such fanciful technicalities seem to originate from the acknowledged rule of employing for the terms of prosody, *Doors*, *Wings*, *Tent-ropes*, and other parts of an Arab habitation. This taste, exaggerated by the imaginative genius of the Persians, has suggested a thousand con-

<sup>1</sup> رباعي — مثنوي — غزل — قصيدة; the four principal kinds of composition in verse—*Elegy*, *Ode*, *Heroic or Didactic Poem*, and *Tetrastich*.

&c. — شعاع — پرتو — شراره — شعله — اخگر — فروغ — مجمره

celts in the arrangement and division of their books. Thus, our author's predecessor, Jami, has divided his Baharistan (or Abode of Spring) into *Rawsaks* (gardens); and the great Persian Dictionary, the Heft Kulzum, or Seven Seas, derives the names of its subordinate sections and chapters from various terms of navigation, or of marine geography. Thus, also, in compliance with Eastern taste, Dr. Dorn, in the chapters of his elegant version of a part of Sadi's Gulistan<sup>1</sup>, has substituted *Lustgang* (garden-walk) for the less appropriate *Báb* (door) of the original; and an interesting little miscellany of translation, published by Von Hammer, was named *Rosenöl* (Rose-oil), and the volumes numbered as 1st and 2nd *Flasket*.

The following is the author's own division:—"This biography consists of two *Majmarahs*: the first *Majmarah* is in commemoration of the lives and poems of the eloquent men of earlier times; it is composed of a *Shálah*, in relation of the biography and poetry of kings and princes of every nation, and of amírs of exalted rank, of the Túrks and other tribes, without special reference to any particular country; and three *Akhgars*, in relation of the poets of Irán, Túrán, and Hindustán; and one *Furógh*, on the biography of the virtuous ladies of all countries. And the second *Majmarah*, which is in description of the lives and conceptions of contemporaneous poets, is composed of two *Pertaws*; the first *Pertaw* comprises the thoughts of my friends and contemporaries; and the second, which is the conclusion of the book, I have completed by a few of my own raw conceptions, in the hope that from the warm breath of (the favour and indulgence of) my friends, they may attain maturity. Success is from God alone!" He then recapitulates these divisions rather more at length, and gives a sort of index of the districts and towns and authors' names.

This arrangement gives the whole empire of Persian poetry under the three grand divisions of Iran, Turan, and Hindustan, preceded by an account of the poets of foreign origin. The geographical heads are further subdivided into provinces, and again into districts and cities. These four *books* (to use a more simple nomenclature) comprise all the authors previous to Lutf Ali's own time; his contemporaries form a second grand division of the work, and the account of his own poems and life is contained in a third part.

The first book is interesting, more from the historical fame of the authors it names, than for the excellence of their compositions.

<sup>1</sup> Drey Lustgänge aus Saadi's Rosenhain.—Hamburg, 1827.

It is pleasing to observe how many of the kings, princes, and pashas, who figure in the pages of Eastern history, as conquerors, warriors, and governors, make their appearance here in the more attractive character of poets, humbly awaiting that criticism of their poetical compositions, which history affords us of their actions, and to the censure of both of which their power and rank made them inaccessible during the period of their life and rule.

Of these "royal and noble authors," the first is the son of the conqueror Mahmúd of Ghazni, famous and infamous, as the patron of Firdúsi, and the object of his celebrated satire. That monarch does not seem to have himself practised the art of which he was, somewhat ostentatiously, the protector; and of his son, whose Kuniyat was Abú Muhammad, here quoted as Ibn Mahmúd Ghaznawi, four lines only are given, a tetrastich, feelingly, but rather punningly, lamenting his mistress, who was drowned.

This chapter contains some striking names: the Emperors Humáyún and Akbar; Shah Shujâ and his brother Abú Yezíd of the Muzaffar dynasty; of the Safides, Shah Ismail and his sons, and Shah Abbás; Jeláluddín Melekhsháh, and Tóghrul, the last of the Seljúks.

These princes, however distinguished by historical interest, do not appear entitled to much poetic merit. Of Jeláluddín Akber and Jeláluddín Melekhshah the biographer gives only a few lines, as specimens. Those of the Seljúkí prince form a quatrain, in the amatory style, of trifling import. His imperial namesake offers only a bacchanalian, or rather anti-bacchanalian, stanza, in which the august poet deploras his last night's visit to the tavern as the cause of headache, in a strain of drunken repentance quite independent of Suffí interpretation.

Of the two first and greatest monarchs of the Safavean dynasty, Shah Ismail and Shah Tahmasp, our author is bound to make honourable mention, and, accordingly, Shah Ismail, under the name Khatáyi (خطايي), is commemorated with all the veneration accorded by the modern Persians to the founder of a glorious dynasty, and the descendant of the sainted Músá<sup>1</sup>; the particulars of which holy lineage are recited in this biography, without differing from the same genealogy as given in other authors. His successor, Shah Tahmasp, a glorious name in the annals of modern Persia, contributes to the anthology a few lines of humorous description of cities

<sup>1</sup> Músá Kázim, the seventh Imám.

and their inhabitants, in which the royal satirist pronounces Isfahan to be a Paradise, but declares a dog of Kashan to be superior to the nobles of Cum, though the people of Kashan are inferior to a dog themselves. His brothers, Elcas, and Behram Mírzá, are praised for their talent; the latter, as well as his son, Sultán Ibrahim Mírzá (جَاهِي), put to death by order of Ismail II., is commemorated for his skill in penmanship, in which Ibrahim was the "Pearl of his age," and was also unrivalled in criticism and composition. The Prince Sam Mírzá, the second of Ismail's four sons, is introduced here under his poetical name of Sámí (سامي), employed by him in the title of his work *Tuhfahí Sámí*<sup>1</sup>, already mentioned.

Abbás the Great, and Abbás the Second, son of Shah Saff, furnish but one distich each. The memoir of the Great Abbas is chiefly historical, though he is stated to have indulged occasionally in poetical composition. Under the name of Adili (عَادِلِي) appears the worthless Ismail, the second of the name, who is here extolled for the glory of his reign, the loftiness of his mind, and the purity of his poetic taste, of which the short specimen given is a very insufficient proof.

Sultan Husáin Mirza Báicara, under the name Husáiní (حَسِينِي) his son Badfázzeman Mirza, and his grandson Muhammad Múmin Mirza, are noticed in memoirs not much differing from those quoted<sup>2</sup> by De Sacy from Sám Mirza's work. Shah Shujá', Muzaffar, in the fragment given of his composition, offers a specimen of poetical bravado, quite equal to the boasting of the Homeric heroes. Ibn Yemín (Amír Mahmúd) justifies the praises his biographer bestows on him by a few ingenious and pleasing specimens. Abdallah Khan and Obáidallah Khan, both chiefs of the Usbeks, a tribe so formidable by their incursions into the Persian empire, contribute also, though insignificantly, to the list of warlike chiefs, who occasionally composed in verse.

Of Amír Ali Shír, the poet, the patron and friend of poets, the critic and poetical biographer, our author speaks in terms of high admiration and esteem, and echoes the encomiums bestowed on him by Dowlatshah, under the name of Fenayi (فَنَائِي)<sup>3</sup> the Persian Takhallus of the great Vizir, who, in his Turkish poetry, assumed

<sup>1</sup> M. de Sacy, *Notices et Extr.*, translates "Présent Sublime;" سامي having no doubt also an allusion to the author's name.

<sup>2</sup> *Notices et Extraits des Manuscrits, &c.*, tom. iv. pp. 278, 279.

<sup>3</sup> In Von Hammer's work *Fani* (فَانِي?) is given as Mir Ali Shir's Persian poetic name.

that of Neváyi (نَوای), by which he is better known. The present work being devoted exclusively to Persian writers, the biographer has confined himself to a short extract in that language. The practice of employing a double Takhallus seems to have been usual with those poets who composed in two languages. In the history of Hindustani literature<sup>1</sup>, Nizámu'l Mulk is stated to have written under two poetic names, and M. de Tassy thinks it probable he used that of Asof (آسف) in his Hindustani compositions; Nizám (نظام) occurring throughout the Ghazals of his Persian Diwan. Sometimes also a different Takhallus seems to have been adopted at different periods of life, as a change of circumstances or a novel turn of mind influenced the spirit of composition; or at the pleasure of their prince, or patron; or of their shaikh, or teacher, who seems frequently to have performed the part of a poetical sponsor. Instances of both occur in these memoirs. Thus, Khácáni (خاكَانِي) was named after Minúchehr, Khácán of Shirwan; and in the chapter now under notice, Tahmásp Culi Beg first called himself Áhdi (عهدی), but later in life assumed the name of Arshi (عرشی) as more suitable to the lofty aspiring of his genius, and the spiritual direction he obeyed in more mature age.

The other memoirs in this chapter are chiefly of Beks, Khans, and petty princes of the Shámlú, Afshár, Turkmán, and other tribes, whose history is only interesting as being connected with that of more important personages, and their compositions in general, neither of great length, nor of sufficient merit to entitle them to a higher place as poets than as potentates. Of these, however, Masáúd and Anísí<sup>2</sup> wrote Mesnavis; Selím<sup>3</sup>, a Mesnavi and a Diwan; Suhafli<sup>4</sup>, a Persian and a Turkish Diwan, and a Mesnavi of Lalfí and

<sup>1</sup> Histoire de la Littérature Hindoui et Hindoustani, par M. Garcin de Tassy. Tome I., article *Nizam*.

<sup>2</sup> From عرش, the Throne of God.

<sup>3</sup> Anísí (انيسی); name, Yol Culi Beg (یولقلی بیگ), of the Shámlú tribe, was at Herát in the service of Ali Culi Khan, after whose death he went to Hindustan, in the service of the Khán Khánán; was a companion of Shikibi (شکبیبی) of Isfahan, whose life is given among the memoirs of the author's contemporaries.

<sup>4</sup> Selím (سليم), Muhammad Culi, Shámlú, lived in Tehrán and Caswín.

<sup>5</sup> Amir Nizámuddín Ahmed, a noble of the Jaghatay tribe, was called Suhaili (سهیلی), a name given to him by Shaikh Azri (آذری); died 907. It was to him that Husain Wáiz dedicated his Persian version of the *Kalilah Dimnah*.



Mejnún. Sálím<sup>1</sup> was author of one of the numerous poems on the story of Yúsuf and Zulaikha; and Itábi<sup>2</sup> ventured to emulate Nizami in the composition of a Khamsah. Sádiki (صادق) assisted biography by a Tazkirah, in Turkish, of his contemporaries.

Of these Lutf Ali speaks mostly in favourable terms, particularly of Anísí, from whose Mahmúd and Ayáz he gives rather a long extract; and of Máyli (ميلي), to whose poetry he professes to be much attached (مايل) and from whose compositions he has made the largest selection in this chapter, viz., 160 lines from his Casidahs and Ghazals. He describes him as handsome, virtuous, and accomplished, acquainted with love, and skilled in the poetic art; his name Mirza Culi, of Turkman family, and residing at Meshhed al Rizawi.

Helali (هلالي), of Jaghatay family, was born in Asterábád, and studied there; from thence he went to Herat, where he was the "admired of all admirers," for his personal and mental accomplishments, and his society much courted. He wrote two Mesnavis, the Shah and Derwish, and Láilí and Mejnún; also a poem called Safát al Aáshikín (صفات العاشقين). At last "he drank the draught of martyrdom by order of Abdallah Khan Uzbek, for the crime of heresy (گناه تشيع following the Shiah tenets), in the year 939." His fragments of Ghazals, Casidahs, and some quatrains, quoted here, furnish about 124 lines.

A well-known name, Cábús ben Weshmgír, Prince of Dílem, appears to furnish an illustration worthy of remark, as the poet cited in the Ferhengi Shûúri as Mír Abú'l Mááni, in such numerous quotations, as to have merited a particular notice by Baron Hammer-Purgstall, who collected the "disjecti membra poetæ," under the title of "Abulmaani's Juwelenschnüre<sup>3</sup>." The doubts respecting the real author of those witty and talented fragments are, I think, fully cleared by the short memoir attached to his name in this chapter, in which the Amír Cábús is identified with Shemsuddín Abu'l Mááni<sup>4</sup>, and the short and only specimen given of his Persian

<sup>1</sup> Sálím (سالم) Mahmúd Beg, Turkman, dwelt at Tabriz.

<sup>2</sup> Itábi (عتابي), of the Tekelu tribe, inhabited Rey (ري), and went afterwards to Hindustan.

<sup>3</sup> Juwelenschnüre Abul-Maani's, durch Joseph von Hammer. Wien, 1822.

<sup>4</sup> Not Shems ul Mááli, nor Abu'l Mááli. All the MSS. which have the diacritical points perfect, have معاني.

poetry agrees, both in taste and subject, with many of the verses scattered over the pages of the *Ferhengi Shuuri*.

The list closes with the name of Sultan Yâcûb, successor of Hasan Padishah Turkman, of whom the author says, that from what he had read in history he seems to have been the greatest prince that nation ever had.

There are eighty-three memoirs in this section, and the verses quoted amount to about one thousand.

In the second book, the author enters on his first grand geographical division, Irán, of which the provinces of Azarbaijan and Shirwan offer the names of fifty-three poets, thirty-nine belonging to the city of Tabríz, the native place of Maulána Shemsuddín, of whose poetry no specimens are given here, the mystical Diwan which bears his name being well known, as Lutf Ali states, to have been composed in his honour, by his disciple, the Mawlawi Jeláluddín Rúmi. Of Tabriz were also Sááib (صائب) Mírzá Muhammad Ali, author of a diwan of one hundred thousand Bayts; Shah Cásim Anwár the Sayyid, and mystic poet; Muhammad Ássár (عصّار) whose poem *Mihr* and *Mushteri* the biographer much admires; Hakím Catrán (قطران) ben Mansúr, according to Dowlatshah a native of Termed, but by Lutf Ali, on the authority of Muhammad Awfi, and other writers, assigned to Tabriz; and Shaikh Muhammad Shebisteri, from whose spiritual poem, *Gulshani Ráz*<sup>1</sup>, some extracts are inserted. *Khacáni*<sup>2</sup>, and his contemporaries, *Feleki*<sup>3</sup>, and *Zúlfacár*<sup>3</sup>, were of Shirwán. The specimens given of the poets of these provinces are not very numerous, except those of *Khacani*, the great panegyric poet, from whose verses one thousand four hundred lines are selected. There is also an extract of one hundred and forty lines from the *Jámi Jem*, and the lyric compositions of *Awhadi* of *Marághah*.

*Khorásán*, the second chapter of this book, offers the splendid names of *Anweri*, *Jámi*, and *Senáyí*, each standing, respectively, among the highest in the elegiac, romantic, and didactic styles. *Anweri*, from *Abiwerd*, a district of *Kháwarán*, commences the chapter with a biographical notice of rather more length than is devoted to most of these lives, followed by an extract of above one thousand of his verses; and the extracts from the authors of the *Heft Awrang* and *Hadícah* are of proportionate length. Of *Hátifi*,

<sup>1</sup> The *Gulshani Ráz* has been published by Baron Hammer-Purgstall. "*Mah-mud Schebisteri's Rosenflor des Geheimnisses*," 1838.

<sup>2</sup> These lives are given by M. Charmoy; "*Expédition d'Alexandre*," &c.

Jami's nephew, a native also of Jám, some quotations are given from his poem of the Heft Manzar<sup>1</sup>, and from his Sháhinhsháh Námeb.

Under his native town of Tús, appears Firdúsi, the first, if not the only epic poet of Persia, and Asadi, his preceptor. Fifteen poets do honour to Kermán, among whom the principal merit seems to be given to Maulána Wahshi (وحشي) by others called of Yezd, because he lived there. Three mesnawis of his composition are named, Khuld Barrein<sup>2</sup>, Názir u Manzúr<sup>3</sup>, and Ferhad u Shirin; of which the two last were written in the measure of Nizami's Khusru and Shirín; the first in that of the Makhzan al Asrar of the same poet; the first two are not spoken of in very flattering terms, but his poem on the loves of Shirin, if it had been completed, the biographer thinks would have been excellent. He also wrote a Diwan, from which, as well as from his two best mesnawis and his قيمت نامه about nine hundred lines of extracts are given.

Níshápúr presents the names of Abú Tálib Faríduddín, called Áttár, and of Omar Ben Kháyám; of the moralist, and of the free-thinker. Also of Nazíri (نظيري) "an incomparable poet"; some, however, have assigned Nazíri to Jawín, as his place of birth.

Herát contains few names worthy of record, though twenty poets appear as natives there. Hakím Azraki, the author also of the Alfiah Shalfiah, composed a diwan of ten thousand bayts; and Muzaffar was styled by Dowlatshah a second Khacani, to which praise Lutf Ali considers him but little entitled, and differs also from Mejdúddín Hemger in his comparison of Imámi, another poet of Herát, with his contemporary, the great Sádi of Shíráz.

The extracts of all the authors quoted in this chapter amount to above 7000 lines, and the number of poets named are one hundred and seventy.

The provinces of Tabaristán, Gílán, and Mázenderán, which form the subject of the next chapter, present a list of poets not very remarkable for their fame, nor are their extracts numerous; from these, however, must be excepted Masáúid Sáad Selmán, who is distinguished by a selection of five hundred lines from his works, composing at least half the quotations.

The fourth chapter is divided into the provinces of Arabian and Persian Irac. The former furnishes only five poets, with but a very

ناظر و منظور<sup>4</sup>      خلد برين<sup>5</sup>      هفت منظر<sup>1</sup>  
نظيري شاعر في نظير<sup>2</sup>

few lines of quotation, not sufficient to establish them as authors of merit. "Precedence is given to Irac Arab in this chapter, from pious respect to Ali and the Imams, whose holy shrines it contains."

The extensive province of Irac Âjam, comprehending the cities of Isfahán, Rey, Cazwín, Cum, Káshán, contributes very largely to the memoirs and anthology. Isfahan, Lutf Ali's native city, commences, and the biographer does honour to his birth-place, by citing seventy-seven poets, its inhabitants. Of these, he particularly distinguishes Jemáluddín Abdu'Razzác, and Kemáluddín Ismáíl, his son; their compositions hold a very high place among those who wrote in the elegiac and panegyric styles. Rafiúddín, their contemporary and rival, was born at Lobnán near Isfahan, and was constantly engaged in poetical strife with them. Another contemporary was Sharfuddín Fazl Allah Seferdeh, Poet King, author of the *Atbác al Zehb*, or *Scales of Gold* (اطباق الذهب) in imitation of the *Atwác al Zehb*<sup>1</sup>, of Zamakshari. Núri, of Isfahan, a poet not much known otherwise, seems to have been held in some estimation, in proof of which, a few extracts are given from his *Diwan*; and Mír Sabrí (صبري) who had before called himself Fáris (فارس) was, in his time, considered by the people of Irac as a second Sháhí<sup>2</sup>; Lutf Ali even gives him the preference over that poet, from the remains which he had seen of his *Diwan*. Mír Sabrí lived in the time of Shah Tahmasp.

Two remarkable memoirs are those of Násir Khusrú, and Zamíri, both of Isfahan. Násir Khusrú Álawí<sup>3</sup>, is well known in the history of the earlier Persian poets. Lutf Ali gives Násir's sketch of his own life, which forms a most interesting, and highly curious piece of autobiography, but is far too long to be quoted entire in this sketch, and suffers much by abridgement. It commences with an account of his education, from childhood till his accomplishment of those deeper studies, which obtained for him an extensive reputation as a philosopher, but which compromised the credit of his orthodoxy, and afforded his enemies the opportunity of attacking

<sup>1</sup> اطباق الذهب "Samachchari's Goldene Halsbänder," by Joseph Von Hammer, Wien, 1835.

<sup>2</sup> Acá Malek B. Jemáluddín of Sebzawár, called Amír Sháhí.

<sup>3</sup> He was seventh in descent from Músá, the seventh Imam. ناصر بن

خسرو بن حارث بن عبسي بن حسن بن محمد بن علي بن موسي  
الرضا

him and his disciples, as opposed to the true religion of Islam. The details of these persecutions, and the consequent wanderings of Násir, and of his brother, Abu SÁid Khusrú, extend through six folio pages of memoir, terminating with the death of Násir, at the extraordinary age of a hundred and forty years, up to which time, and to within some hours of his death, the narrative was continued by himself. He concluded by bequeathing his numerous works, by name, to his different friends, and dictating to his brother exact instructions for his interment, which was performed in the cave he had for many years inhabited in a certain district of Badakhshán, where he had devoted himself to prayer and contemplation, in retirement from the cares of the world, and the dreaded persecution of his enemies. The conclusion of the memoir was written by his brother, Abú SÁid, giving a minute account of the last moments of the dying philosopher, whose repeated professions of belief in the Mahometan faith may, perhaps, redeem him from the charge of infidelity, which, in the opinion of many persons, is attached to his memory. Some of the circumstances recorded in this memoir are so extraordinary, especially the use he declares himself to have made of talismans, by which spirits were rendered subservient to his will, and the appearance of the two supernatural agents, who assisted Abu SÁid in the labours of his brother's interment, that Lutf Ali declares his inability to explain many parts of the Tazkirah he quotes; but from as much of it as he could understand, and from the testimony of other authors, he allows Násir the merit of deep learning and extensive acquirements. Of his poetical talent he could only give a specimen from indirect sources, not having seen his Diwan; and had selected about one hundred and thirty lines, chiefly from his Casidahs, which appear to have been, for the most part, employed in enigmatic description, or devoted to the praise of the Unity of the Godhead.

Zamírí (Kemáluddín Husain) flourished in the reign of Shah Tahmasp Safawi. "His salty poetry was a plaster to the wounded breasts of lovers, and his sweet couplets shed repose on the souls of the holy." "On account of his skill in geomancy he assumed the poetical name of Zamírí" (ضميرى the intelligent, or contemplative). "Night and day, in public and in private, he was continually occupied in reading and composing." "Neither in Isfahan nor elsewhere had any poet been author of so many works," though, as Lutf Ali shrewdly remarks, "the Maulána would have done better if he had considered the quality, rather than the quantity, of his compositions." The catalogue of those enumerated in this memoir presents

a formidable array, sufficient to entitle Zamíri to rank, for fertility of genius and the variety of his productions, with Abdurrahmán Jámi and Faríduddín Áttár. Besides numerous Diwans, he was author of six Mesnawis<sup>1</sup>; Náz u Niyáz; Behar u Khazán (Spring and Autumn); Hasanat al Akhiár; poems on the loves of Wámíc and Ázrá, and of Laila and Mejnun; and an Iskender Nameh. His Diwans of Ghazals were thus arranged: those not intended as imitations,—of which seven<sup>2</sup> were completed; and those which were in imitation of, or to correspond with, the Diwans of other poets. Of these last, six were composed after the following distinguished writers of Ghazals<sup>3</sup>: Kh'ájah Háfiz, and Bába Fighání, both of Shiraz; Jámi; Lisání of Shiraz; Sháhí of Sebzawar; Benáyí of Herat; Mír Sálahi of Meshhed; Asáfi of Herat; Bába Shahídí of Cum; Mír Humáyún of Isfrain; Mír Ashraf Jehan of Cazwín; Kemal, of Khóvend; and Amír Khusru and Hasan, of Dehli. Besides the above, four Diwans were arranged in imitation of Saadi's Taybát, Bedáyá, Khawátim, and Ghazaliátí Cadímah<sup>4</sup>. Of this voluminous writer an extract of only sixty-six lines is given, which were all Lutf Ali had an opportunity of seeing.

The other towns of the province of Persian Irac furnish copious

وامق و عذرا—حسنة الاخيار—بهار و خزان—ناز و نياز<sup>1</sup>  
اسكندر نامه—

صورت حال—صغينة اقبال—قدس خيال—  
عذر مقال—صیقل ملال—عشق بیزوال—کنز الاقوال

<sup>2</sup> These Diwans were thus named, respectively, in the orders of the authors enumerated:—

|              |           |             |              |
|--------------|-----------|-------------|--------------|
| عیون الزلال  | سحر حلال  | نجسته نال   | منتهای کمال  |
| آییند جمال   | فراغ بال  | لوامع خيال  | معشوق لایزال |
| معراج الآمال | درد مثال  | بداییت وصال | حسن مآل      |
| انیس اللیال  | سحاب جلال |             |              |

I have not translated these titles, which, with those preceding them, seem selected chiefly with regard to sound and rhyme, and many of them evidently in allusion to the Diwan, or author, imitated.

<sup>4</sup> غزلیات قدیمه—خواتیم—بدایع—طیبات<sup>4</sup>  
نهایة السحر—بدایة الشعر—صنایع—طاهرات styled

materials for biography. Rey, with twenty-two poets, presents the names of Umídi<sup>1</sup>, a native of Tehrán, but resident here, whose Casidahs are much admired; and of Pendár<sup>2</sup>, whose Diwan had not been seen by Lutf Ali, but who is mentioned in terms of high praise, and is stated to have composed in Persian and Arabic and in the dialect of Dílem.

Cazwín and Cum have each a numerous list. Of the forty-two poets of the former town, Lutf Ali particularly praises Sharaf<sup>3</sup>, a writer not much known from other biographies, but considered to be superior to any of his fellow-citizens. Baba Shahídi, a "renowned poet" in the service of Sultan Yácúb, was of Cum. After Yácúb's death, he went to Khorasan, where he enjoyed the friendship of Abdurrahmán Jámí, and the favour of Sultan Husain Mirza Baicara. Among the memoirs of the poets of Cum is that of Shaikh Nizámi, already mentioned, as being quoted<sup>4</sup> by Professor Charmoy.

Cum has thirty-five poets. Kashan presents forty-two poets, though, from the slight notice of their works, our author does not appear to have allowed them much merit. However, Muhteshem (محتشم) and Kelím seem, in his opinion, to deserve to be more largely quoted, and he accordingly gives above five hundred lines from Muhteshem. In Mesnawi and Ruba'i he did not satisfy Lutf Ali's critical taste; but his skill in the Casidah and Ghazal is much praised. A beautiful elegy of his on the death of the martyr Husain is mentioned. Kelím is here assigned to Kashan, his birth-place, though by many authors he is stated to have been a native of Hamadán. Extracts are given from his Ghazals; in the other styles of poetry he was not so successful. A Shahinshah Nameh of his composition is mentioned, but only four verses quoted from it.

To the talent of Baba Afzal, (افضل) another of its poets, and to

<sup>1</sup> مولانا اميدي His name was Arjasp (ارجاسپ)

<sup>2</sup> كمال الدين پندار رازي

<sup>3</sup> ميرزا شرف جهان His family had been much honoured in the time of Oljajtú Sultán; the Mirza himself lived under Shah Tahmásp Safawi; in his style of writing he imitated Zamíri (already mentioned), and his Diwan was composed of 2000 bayts.

<sup>4</sup> See note, page 347. The other lives translated, besides those in pages 358, 367, were of Nizámí Arúzi of Samarcand, Mujíruddín of Báileán, and Abú'l Álá of Ganjah—nine in all.

his friendship with Násiruddin Muhammad Tási, the city of Kashan was indebted for favour and protection, when Hulagu Khan and the Moghuls were laying waste Iran and its dependencies. Násiruddin wrote verses in praise of his friend, the poet, of which a couplet is preserved in his memoir.

Asíruddin Awmání, Uriyán, (عریان) and Heláki, are much praised among the poets of Hamadán, especially Asíruddin, though his Diwan was not extant in Lutf Ali's time. His life, and that of Uriyan, appear to be well known. Heláki was more modern, and lived in the time of Behram Mirza Safawi.

The short memoir of Kh'ájah Rashíduddín, inserted in this place, may be worth notice, from the great interest attached to his historic work; as a poet he exhibits only one single tetrastich. He is thus mentioned:—

خواجه رشید الدین محمد وزیر است با همت و عالی مقدار  
 و پیریست پر تدبیر و کم آزار صلاح اندیش صاحب اخلاق  
 و در نیک رأی مشهور آفاق تصانیف از او بسیار از آن جمله جامع  
 رشیدی که در انتظام انساب قبایل ترك تا زمان او در توارخ  
 فارسی کتابی بآن تنقیح نوشته نشده و عمارات عالیه از وی مانده  
 آخر الامر بوزارت رسیده مدتی وزارت ارغون خان و سلطان  
 محمد خدابنده کرده و وزارت با امارت جمع کرده و آخر الامر  
 با فساد خواجه علی شاه وی و پسرش شهید شدند و بسعادت  
 شهادت رسیدند گویند اعضای ایشان را باقالهم سبعة فرستاده اند

Sávah (ساره) gave birth to Selmán, hence called Sávaji, to distinguish him from Masáúd Selmán, already mentioned. He is described as one of the first poets of his time, and a saying of Álá-uddowlah Semnání is quoted, that, "Like the pomegranates of Semnán, and the poetry of Selmán, were none to be found."

Of Yezd there are eighteen poets. The only one remarkable is Sayyid Jelál Ázad (عزاد); he and his father successively held the office of Vizir to the Muzaffar Sultans.

Írác Ajam, with its large and populous cities, thus furnishes two hundred and eighty-two poets to this collection of memoirs; and



from their writings the compiler has selected between four and five thousand verses.

« Fars, the fifth chapter of the Book of Iran, has fifty-seven poets, of which, from a list of distinguished names presented by Shiraz, those of Ahli, Háfiz, and Sâdi, are conspicuous. Of the two latter, whose writings have been more before the European public than those of most other poets of Persia, little that is new is to be gained from their biographies here, although given at considerable length; the author has shown due respect to their genius by the admiration he has expressed, and by the copious extracts he has made of their compositions: of Sâdi especially, of whom near sixteen hundred verses are quoted, being the longest<sup>1</sup> extract in the whole anthology of this work; and of Hafiz, from his Ghazals, about three hundred lines.

The few quotations of Persian verses used by Lutf Ali in his narrative, are almost exclusively from these two poets<sup>2</sup>; Hafiz is cited more than once in the preface; and, in another part, Sadi's Bostan is quoted in illustration of the distress of Isfahan during its siege by the Afghan army.

Not contented with the abundant extracts he has inserted in his Florilège, from all parts of Sadi's Diwan, and numerous short apologues from the Bostan, Lutf Ali has made a large selection also of the poetical fragments of the Gulistan, which popular work he considers a "compendium of wisdom;" and contrary to the rule naturally prescribed in the arrangement of a poetical miscellany, he has further gratified his admiration of his favourite writer, by the insertion of a short Kelimah, in prose<sup>3</sup>. He dignifies Sadi by the appellation of "one of the four columns of eloquence and learning," in which he associates him with Firdusi, Nizami, and Anweri, and declares it to be his opinion, that "from the earliest commencement

<sup>1</sup> Next to Sadi, the longest extracts are from Khacâni, Anweri, Kemal of Isfahan, Wahabi, and Hakím Senáyí, 1000 to 1200 lines each; of the contemporary poets, those from Sabâhi and Hátif, of about the same length.

<sup>2</sup> There are also occasional quotations of a verse or two from Anweri, Senáyí, Nizami, &c.

<sup>3</sup> It may be curious to observe which passage of the whole work had so struck its reader as to make the temptation to quote it irresistible.—از حکمی پرسیدند—

که نیکبخت کیست و بدبخت چیست گفت که نیکبخت آنست که خورد و کشت و بدبخت آنست که مرد وهشت  
—It is from the 1st Apophthegm of the 8th chapter.

of Persian poetic literature, no individual has appeared, who is entitled to rank with these four." Hafiz is quoted also in the short notice of Shiraz, which precedes the memoirs of her gifted sons; and Lutf Ali mentions having "frequently been honoured" by pilgrimages to the Kh'ajah's tomb.

The account Lutf Ali gives of Shiraz, and its lively inhabitants, runs thus: "Shiráz, the Seat of Learning, is situated in the third climate; its longitude from the meridian of the Fortunate Isles is 88°, and its latitude 39° 36' from the Equator. It was founded in the year 74 of the Hijrah, by Muhammad Ibn Yúsof Sacfi, (ثقفى) the brother of Hajjáj, under the ascendance of Virgo, and in the time of Ádhaduddowlah Dilemí its population had increased to such a degree that a new building had to be constructed for the soldiers outside of the city; this was called Súc al Amír. Samsámuddowlah, son of Adhaduddowlah, built a fortification, and Ámru Leis Suffár founded a mosque, the Jámi Átíc, (the Old Metropolitan Mosque). The water of this place is supplied by canals (قنوات), of which the best is that of Ruknuddín Hasan Boyah. Its praises are chaunted by Kh'ajah Háfiz:

"Fair Shiraz, with its pure stream of Ruknábád, and its soft-breathing zephyrs!"

"O censure not that blessed spot, that beauteous mole on the cheek of the universe!"

"The climate is temperate; neither extremely hot nor cold. Its inhabitants, whether gentle or simple, children or aged sires, are fond of pleasure and social enjoyment, passing the whole of their days in taverns and coffee-houses. The unceasing ravages of time, and misfortune, by which Shiraz, in common with all the other cities of Iran, has been afflicted, are now repaired under the auspices of the present sovereign," (Kerím Khan Zend,) "by whose order the city has been surrounded by a wall and deep ditch, its streets paved, and many fine edifices been constructed. Shiraz was always celebrated as the residence of saints and holy men, and its soil is the burial-place of the honoured descendants of Imams; such as Ahmed and Muhammad, the sons of Músá Kázim; and the place of repose of illustrious Shaikhs; as, Shaikh Abdallah Khaff, and Shaikh Rozbehan Shattáh, and Shaikh Sádi, and Kh'ajah Shems-uddín, called Háfiz, and others."

Ahli, distinguished from his namesake, Ahli Khorásaní, of Tarshíz, as Shirází, is mentioned in terms of high praise, justifying the reputation in which his poems have always been held in Persia.

The other towns, Aberkoh, Behbehán, Dárábjird, Shúster, and Kázrún, offer nothing remarkable in the few memoirs attached to their names. More than three thousand lines of poetry are given of the inhabitants of the favoured region of Fars.

Túrán, which forms the subject of the next Book, is distinguished as the native country of some of the greatest of the Persian authors. Foremost among them, in the first subdivision, Balkh, appears the great Mawlawi, Jeláluddín Rúmí. His memoir is rather a long one, and there are extracts from various parts of his Diwan. Ânsari, one of the earliest, and, according to Lutf Ali, one of the best of the poets, does honour to this great city, the birth-place, also, of Shaikh Abú Alf Síná, known to Europeans as Avicenna, the physician and philosopher, but who is here introduced to us as a Persian poet, with a few lines in praise of wine; and of Mauláná Rashíduddín Watwát, the author of the work on poetics, called Hadáiyic al Sihr (هدایق السحر), whose biography is already well known, and whose poetry is here rather largely quoted. Of Ansari are inserted some extracts of great value, from the scarcity of that poet's works: Also of Minúchehr, surnamed Shast Keleh, (شست کله), Ansari's contemporary, both being of the time of the Sabaktaginidæ.

Among the poets of the same district appears Amír Khónd, the author of the voluminous and valuable history, the Rawzat al Safá, from which, probably, the distich here given is only a quotation.

The province of Kharzim (Chapter 2nd) supplies only five poets, of which Zahíruddín is alone distinguished, and from his poetry four hundred and fifty lines are extracted. Zahíruddín Faryábi's life is among those translated by M. Charmoy.

Mawaralnahr (Chapter 3rd) furnishes some of the oldest and most celebrated names in Persian literature. Among them Ustád Abú'l Hasan Rúdeki, "the first who unlocked the treasury of Persian poetry," Shaikh Abu'l Abbás, and Âmic, contemporaries of Rúdeki, and all three of Bokhara. Above four hundred verses are quoted from Maulána Âmic Bokhárf, who is here styled "a sweet and eloquent writer," and whose works are extremely rare. The quotations from Rúdeki and Ísmat Allah, of Bokhara, are not so numerous. Júherí Zerger<sup>1</sup> was also of that town.

The poets of Badakhshán, Termed, Khóvend, and Akhsíket, are noticed. Of Termed was Adíb Sábir, by Anweri preferred to Rashiduddín Watwát. Lutf Ali praises him highly, and quotes

<sup>1</sup> One of M. Charmoy's Lives.

largely from his poems. Asíruddin, called Akhsíketí, from Akhsíket in Ferghánah, belongs also to this division of Turan. From Samarcand, we have Dakíki, "an ancient and esteemed poet," Hakím Súzení, and Amír Muizzí, who was Poet-king at the court of Sultan Múizzuddín Sanjar. An extract of six hundred lines accompanies this last memoir.

The whole of the poetry quoted in these three chapters amounts to about two thousand seven hundred verses, from fifty-four poets; of whom by far the greater number were of Bokhára and Samarcand.

The writers of older date have now been noticed to the extent of the Persian dominions. In the 3rd Book, devoted to Hind, the author confines himself exclusively to the memoirs of those who composed in the Persian language. He has divided this vast region, of which, however, the number of poets given is but small, into the Dekan, Dehli, and Kashmír.

He describes India as "a country of great extent, containing innumerable cities and districts; of excessive heat; its manners and customs mostly differing from those of Iran and Turan; producing many strange fruits; and, generally, from its great distance, very imperfectly known to the inhabitants of Persia."

There is a short geographic and historic sketch of the Dekan, under which head are named only two poets, Saffrí, of Jawnpúr, (صافري جونپوري), and Shaikh Faizi, (فیضی), son of Shaikh Mubárik, known as Dekani, though the author of the Heft Aclím states him to have resided at Agrah. Faizi composed a Diwan, which Lutf Ali had seen, and from which he gives an extract.

Dehli is extolled for the excellence of its air and water, the freshness of its gardens, and its charming situation, above all the cities of Hindustan. It supplies this biography with seven poets, of which by far the most distinguished are the well-known Amír Khusrú Dehlevi, and his friend Amír Hasan, here called Kh'ájah Hasan.

Amír Khusru was of Kesh in Turkestan, from whence his father, Amír Mahmúd, fled to India in the time of Jengiz Khán's invasion, and, coming to Dehli, engaged in the service of Sultan Muhammad Taghlic Shah, by whom he was much favoured. He fell a martyr in the sacred wars (against the Hindoos), and was succeeded in his dignities by his son. Amír Khusru having perfected himself in all bodily and mental accomplishments, "the odour of the wine of sanctity having penetrated the brain of his soul," he withdrew him-

self from worldly pursuits, and devoted himself to the service of the Shaikh Nizám al Avlíá, who was much attached to him. Lutf Ali states it to be a well-known fact, that Shaikh Sádi visited Dehli for the express purpose of meeting Amír Khusru, between whom<sup>1</sup> and himself a very sincere attachment was formed. The poetical works of Amír Khusru are here said to amount, including his *Khamsah* of *Mesnawis*, and *Diwan* of *Casidahs*, and *Ghazals*, to the enormous number of *four hundred thousand* bayts and upwards; of which near one hundred thousand had been inspected by the laborious compiler of this biography. Amír Khusru died in 725, and was interred in the same burial-ground with Shaikh Shakar-Ganj, Nizam al Avlíá's preceptor.

Kh'ajah Hasan is very briefly mentioned, as a pupil also of Nizam al Avlíá, with whom, as well as with Amír Khusru, he was united by the most affectionate ties of friendship.

The life of Shaikh Farídu'din Shakar-Ganj is also given. Faríd, "the Pearl of Saints, and unique among the pious men of Hindustan," obtained the imperishable *treasure*<sup>2</sup> of holiness, and sweetened the palate of his soul with the *sugar*<sup>3</sup> of Divine aspirations." As a sufficient proof of his merit, it is mentioned that Nizam al Avlíá, the greatest of the Sufis of India, was his pupil. One *Matlá* and a *Quatrain* are given of the compositions of the Shaikh Shakar Ganj.

Another celebrated Sufi and Saint was Múfnuddin Chishti<sup>3</sup>, a follower of Sultan Shamsuddín and Sultan Shihábuddin Ghúri. His burial-place was Ajmír.

The other poets of Dehli quoted are, Mír Jedáyi (جدای) whose title was Chákir Khan, and whose skill in painting obtained for him from the Emperor Akbar the surname of Nádír al Mulk; he was engaged in a poetical controversy with Ghazáli of Meshhed; Jemáli, a pupil of his uncle Behá-uddín, of Lakhnau; and Nisháni (Ali Ahmed) a Derwish, and distinguished man. Ali (Násir Áli,) contemporary with Aurang Zíb, was of Serhind.

Of Kábul, the biographer only finds one poet worthy of mention, Kh'ajah Zádeh, an excellent and accomplished youth, the beauty of whose mind was only equalled by the loveliness of his person. "Kábul is a country of antiquity, situated in the fourth climate; it

<sup>1</sup> See "Saadi, Auteur des premières Poésies Hindoustani."—*Journal Asiatique*, 1843.

<sup>2</sup> A play on the poet's name شکرگنج—*Shakar*, sugar, and *Ganj*, treasure.

<sup>3</sup> For the lives of these two Shaikhs, as well as that of Nizám al Avlíá, see M. de Tassy's "Mémoire sur la Religion Musulmane dans l'Inde."

was formerly the frontier district between Iran and Hindustan, and was for many years subject to the Sultans of Hind; it is now forty years since it passed into the dominion of Nadir Shah, and after him, of Ahmed Shah. It is an extensive and wondrous region, celebrated for the purity of its air and the salubrity of its water, and producing many excellent fruits."

A poet of Pánipat, Cádiri, is cited merely by name, and one only of Láhór, Sirájuddín, for whose history reference is made to the notice of him in the Heft Aclím. Of Láhór it is said, that "though a hot climate, snow and ice fall there in the spring season."

A short account is then given of Kashmír, to whose genial climate and loveliness of situation Lutf Ali pays the usual tribute of praise bestowed by Eastern geographers on that favoured region, which the "luxuriance of its gardens and groves, and the abundance of its rivulets and flowers, make to resemble the delicious meadows of Paradise." It is described as situated in the fourth climate; its inhabitants to have received Islamism in the time of Sultan Sikandar, and to have a commerce of shawls, for the weaving of which they are famous, and of saffron, a production of the country. Four poets are cited, natives of Kashmír; of these the only name with which we are much acquainted, is that of Ghaní (غني), author of a Diwan. The others are Binish (بينش), who lived at Jehánábád, in the time of Aurang Zíb; Kemgóyi (كمگوي); and Mazhari (مظھري), an agreeable person, who was surnamed Buti Khandán (بت خندان Smiling Idol?) in India, and who made frequent journeys between that country and Persia.

The whole of the lines quoted in selection from the poets of Hind, exclusive of a large extract from Amir Khusru, amount only to a few more than a hundred. Those of Khusru are from the Ghazals and other parts of his Diwan, and from his Mesnawis of Láílí Mejnún, Khusrú Shírín, the Sikander Nameh, and his poem of Khizr Khán; altogether comprising 254 lines<sup>1</sup>.

Having completed the catalogue of the poets of earlier date according to his geographical distribution, the names of some ladies are added, who distinguished themselves in literature and especially in poetry. The appearance of ladies, as authors, in a country where female talents are supposed to be underrated, and the seclusion of

<sup>1</sup> I have been rather more minute in the analysis of these three chapters, from the interest which attaches to the poets of India in reference to M. Garcin de Tassy's History of Hindi and Hindustani Literature, of which learned and important work the second volume, now in preparation, is anxiously desired by the friends of Oriental Literature,



to be of Nishápúr; her powers of mind were unequalled among her sex; and her talents procured her honour and respect at the court of Sultan Sanjar. It was known that she composed much poetry; but by length of time, and chiefly by the destruction of Herat, during the invasion of Obaidullah Khan Uzbek, it was no longer extant in Lutf Ali's time. He has been able, however, to give seventy-six lines of this accomplished lady's composition, forming tetrastichs; one of which was gracefully improvised by Mihsiti in description of the snow which was then falling, when desired by the Sultan to describe the weather.

Núr Jehán Bégam, the favourite Empress of Jehángír, concludes the list of poetesses of Persia, and Persian India. Her name only is given, and a distich addressed by her to Jehangír in deprecation of his anger, which seems to have produced the effect desired, by calming that Emperor's resentment.

"The amber-scented pen having, by divine permission, performed its promised task of depicting the lives and sayings of the eloquent poets of former times," their annalist proceeds to the literary chronicles of his own age. He commences by lamenting the melancholy series of events which had brought poetry and its professors into disrepute, and had interrupted the cultivation of learning, and gives an affecting and eloquent description of the miseries entailed on his country by the civil convulsions of the last fifty years, during which period "the regions of Iran, once the type of the bowers of Paradise, and the envy of the inhabitants of the world," had been devastated "by the burning flame of the oppressor, and the tyranny and wickedness of stranger and of citizen; by the bursting of the thunder-cloud of calamity, and the out-pouring of the deluge of crime; her wealth plundered—her daughters massacred, or sold to bondage—and the denizens of the once-smiling gardens of that beauteous region exiled and wandering in a foreign clime."

"Barred was the door of learning in that realm;  
 Its portals closed against the pilgrim's step.  
 Each day teemed fruitful with calamity.  
 On either side stood battle's grim array,  
 And rose the dust-cloud of tumultuous strife.  
 Each Venus-face was captive in the rude  
 And ruthless grasp of some infuriate Mars;  
 Each Peri, prisoner to some scowling Dive.  
 The heart was drunken with the sickening blood-draught,  
 Quaffed from the bowl of murder and of death.  
 No music met the ear,  
 Save from the caverns of the minstrel's lute,  
 The low sad sound of wail and lamentation."



“Neither was opportunity of worship and prayer for the apart-kneeling Záhíd (hermit), nor of blandishment and dalliance for the heart-stealing Sháhíd (charmer); for peril of his life, the soul-enchained lover dared not court the society of his beloved one, and the beautiful object of his passion, from distracted fortune, desired not the sight of her afflicted victim.

“At length the smoke of the sighs of the unfortunate, ascending to heaven, quenched the fire of the oppressor’s wrong, and the arrow of the distressed one’s prayer reached the target of success.” “That is, it seemed good to the all-healing Physician, the Creator of the universe and its inhabitants, to raise from the orchard of time the tree of a reign of Rústem strength, and of dignity like Cosroës; and to nourish, in the rose-garden of the world, the young plant of power, vigorous as Jemshíd, that by the gripe of justice the thorns and thistles of oppression should be rooted up, and by the hand of benevolence the noxious weeds of avarice should be eradicated from the world.”—“A prince, the veil of the tent of whose power scares from this desert world the ominous kites and ravens of disaster; a potentate, the breeze of whose flapping banner causes the roses and lilies of justice and equity to blossom on the brambles of iniquity and oppression; a merciful ruler, whose innate clemency and virtue shine conspicuous in his name<sup>1</sup>, as in his nature; a hero, the tongue of the flame of whose wrath is speechful with the verse, ‘*Deliver us from the torment of fire*’; the lightning of his sword dazzling the face of the sun, and the point of his lance piercing the ear of Mars; in whose reign of justice wolves have undertaken the employ of the shepherd, and in the period of whose powerful rule thieves have performed the duties of the watch; at the report of whose generosity the name of Máan has become an empty sound, and in comparison with the glory of whose valour the deeds of Zál are but an idle tale; Darius in wisdom; in majesty, Sekander; exalting the standard of Jemshíd, and displaying the vest of Rústem; the lion of the forest of bravery; the champion of the arena of success; the favoured, fortunate, and incomparable monarch, Abú’l Nasr Sultán Kerím Zend,—God glorify him with victory, and dismay his opposers!”

These are but a few<sup>2</sup> of the extravagant epithets of adoration

<sup>1</sup> Alluding to the name of Kerim (كريم) clement, benevolent).

<sup>2</sup> وَقَنَا عَذَابِ النَّارِ Cor. ii. 197. Edition of Flügel.

<sup>3</sup> Some of these metaphorical expressions are almost too absurd to be translated, and without explanation, would be hardly intelligible to the general reader; as, where the panegyrist declares the Kemend (hunting-noose) of Kerim’s justice

bestowed on the amiable and illustrious Kerim, in grateful acknowledgment of the benefits bestowed on Persia by his wise and benevolent reign, and the blessings of peace obtained by him for that distracted empire, which, after the ravages of Afghan invasion, the horrors of war, siege, and famine, the vigorous but bloody rule of Nadir Shah, and the equally destructive contests of ephemeral princes, and their lawless troops, at length reposed in a tranquillity which Lutf Ali celebrates in language far exceeding in hyperbole the classic descriptions of the golden age. "Now is each wilderness become a verdant lawn, and every thorn-bush blossoms like a jasmine-branch<sup>1</sup>; the mourner has obtained the blessing of comfort; the desert has put on the garb of populousness. In the pasture-ground of his justice the finch and hawk fly together; in the meadow of his graciousness the wolf is the partner of the lamb<sup>2</sup>; the palate of the antelope-kid is sweetened by the lion's milk<sup>3</sup>, and the claw of the pigeon-chick is dyed in the blood of the falcon; the stone of the shepherd, by his mercy, has broken the fang of the wild beast; and the huntsman, through his clemency, has fractured the eagle's pinion.

Encouraged by this favourable tranquillity, and profiting by the leisure it affords, Lutf Ali turned his thoughts to the patriotic task of commemorating the modern poets, his countrymen and contemporaries. Zealous for their fame, he anxiously vindicates them from any disparaging comparison with the ancients, and points out the great difference which existed in the respective situations of the two classes of poets; the ancients "nurtured in the cradle of prosperity and peace, and obtaining every want and wish beneath the shadow of the protection of the monarchs of the age," their patrons, "the hand of whose benevolence effaced from the mirror of their heart every particle of the dust of affliction;" the moderns, exposed

curtains the length of the enchaining ringlets of the charmers; and that, "from the lustre of the water (آبرو) of his sword, the (curved) scimitar of their eyebrow (ابرو) is as if hidden in a black sheath." And again, "The comb of the sword of his (just) revenge, from the blood of the iniquitous, becomes the face-adornor (or tyre-woman) of the bride of justice." "The shoe-nails of the war-horse of his glory have spread the dust of traitors (who have been trampled under its hoof), as Surmeh (collyrium), on the eyes of the brides of justice."

<sup>1</sup> Isaiah xxv. 1. "The desert shall rejoice, and blossom as the rose."

<sup>2</sup> "The wolf shall dwell with the lamb, and the calf, and the young lion, and the fatling together." Isaiah xi. 6; versified by Pope,—

"The lamb with wolves shall graze the verdant mead," &c.

<sup>3</sup> A complicated play on words; از شیر سبزان شیرین

to all the vicissitudes of fortune, and the calamities which daily oppressed the inhabitants of Iran, especially the learned and studious, and by which "the bulbul of their speech became dumb, and the parrot of their genius wingless."

The whole of this introduction occupies some considerable space in the MS., and in rhetorical complexity of Persian fine-writing, more than equals the preface, already analyzed. Still more fully to render justice to the merits of his contemporaries, Lutf Ali has thought fit to give a detailed account of the circumstances which influenced their fortunes and confined their genius. These details extend through twelve pages of the text, affording a connected and interesting narrative of the affairs of Persia, from the commencement of its invasion by Mahmud and the Afghans to the re-establishment of order and tranquillity by the final successes of Kerím Khán Zend. Its contents are, however, so purely historical, that it may very properly be passed over<sup>1</sup> in this sketch of literary biography. Such parts of it as immediately relate to Lutf Ali, and his personal history, will be more appropriately quoted in the notice of his Life, which commences the last chapter of the Atesh Kedah.

The memoirs of the contemporaneous poets are placed (as those of the princes and nobles in the first book) in alphabetical order, their number not being sufficient to admit of a more classified arrangement. This is by far the most interesting portion of the whole work. Seventy-one poets,—many of them almost entirely unknown to us by name, and few of whose works, or even parts of them, if extant, are now accessible to our researches,—are here commemorated by Lutf Ali, with all the advantages derived from a knowledge of their history by personal acquaintance, and of their writings from immediate inspection. Many of these poets were Lutf Ali's intimate friends, with whom he was in habits of constant and cordial intercourse; and although it may be suspected that they were indebted to these circumstances for their existence in the pages of this biography, there are many, whose merits alone might entitle them to a place in the annals of Persian literature; and as his praise does not seem bestowed without discrimination, it gives them a better title to merit when conferred. Thus, although Maulana Muhammad Múmin Dááf<sup>2</sup> is cited as "a compendium of perfection, and virtue, and

<sup>1</sup> It may perhaps appear in a separate form.

<sup>2</sup> Dááf (داعی) was of a Sayyid family of Cum, and lived some time at Isfahan, where Lutf Ali "tasted the honeycomb of his society;" from thence Dááf returned to his native place, finally retired as a Derwish, and died at the age of ninety, A.H. 1166.

learning," and his verse declared to be pearls, and his prose compared to jewels; though Muwahhid<sup>1</sup> is styled the "phoenix of his age," and Shikfb<sup>2</sup> is said to contain in his heart a "treasury of the jewels of divine mystery," yet many are praised but slightly for poetic talent, and are rather eulogized for skill in other accomplishments, or for their social disposition, and agreeable manners.

Few of these modern poets distinguished themselves by compositions of any length. Sádíc<sup>3</sup> wrote a Mesnawi, of which the title is not recorded; and Námí<sup>4</sup> composed poems on the well-known subjects of the loves of Shírín, and of Laíla and Mejnún; from the latter of these Mesnawis a short extract is given. Wálih<sup>5</sup>, whose poetical compositions did not much please his biographer, compiled a Tazkirah. Umíd<sup>6</sup> and Nashah<sup>7</sup> were authors of Diwans, which were completed during their lives. Of some others, the poetical works were collected by their friend Lutf Ali,—as those of Mírzá

<sup>1</sup> Maulána Shafíá Muwahhid (شقیبا موحّد) whose ancestors came from Talcán to Isfahan, studied under Maulána Husain; after more than seventy years of piety and devotion, "the falcon of his soul took its flight for the rose-garden of Paradise." He was much attached to Lutf Ali.

<sup>2</sup> Maulána Muhammad Ali Shikfb (شكيب) was murdered in his own house at Shiraz, in the time of the Afghan invasion, 1135.

<sup>3</sup> Ácá Muhammad Sádíc (صادق); his family were Sayyids of Tafrash. He came in his youth to Isfahan, and studied under Maulána Muhammad Sádíc Ardestáni, who was the "Edrís of his time." After his master's death, and the termination of the Safide dynasty, Acá Muhammad retired to his native place, and died in the reign of Nadir Shah. He was a great friend of Lutf Ali Beg. His chief taste in poetry was for Mesnawi, but he wrote also Ghazals and Tetrastichs.

<sup>4</sup> Námí (نامی) Mirza Muhammad Sádíc. His ancestors were Sayyids, and came a hundred and fifty years before from Fars to Isfahan.

<sup>5</sup> Wálih (والد) wrote much poetry, and was author of a Diwan. His name was Ali Culfí Khan: he went in his youth to India, where he died.

<sup>6</sup> Umíd (امید) Ácá Riza (رضا). He went in the time of Sultan Husain to India, where the emperor gave him the surname of Ghizilbásh Khan. He died there. Lutf Ali had often met him, and describes him as an agreeable companion, a sweet singer, and a scientific musician.

<sup>7</sup> Nashah (نشاہ) Mirza 'Abdu 'Razzác, descended from Jehánsháh Turkmán, was of Tabriz, but studied at Isfahan; was skilled in science, particularly mathematics. He died at Tabriz, 1158. His Diwan consisted of 2000 bayts.

He mentions another Nashah, a contemporary, Mírzá Záin al Ábidín, who died 1155, at Shiraz; a pleasant companion, a good poet, and skilled in penmanship.

Tabíb<sup>1</sup>, and Mushtác<sup>2</sup>; in the arrangement of the latter he was assisted by Sahbá<sup>3</sup> and Hátif<sup>4</sup>, and has been able to quote largely from it for his selections. He also performed the melancholy duty of composing a Táríkh, or poetical chronogram of the death of many of his friends. One of these was on Derwish Abdu 'l Mujíd<sup>5</sup> of Tálcán; another on Mirza Tayib<sup>6</sup>. Of Tarikhs; he relates an anecdote of one of his contemporaries, Tayri<sup>7</sup>, whose melancholy disposition induced him to compose his own Tarikh, or epitaph, every year, in anticipation of death, omitting only the year in which he died.

Of all these modern authors, the most remarkable is Hátif of Isfahan, whom his friend compares to AAsha and Jerír, to Anwari

<sup>1</sup> Tabíb (طبيب) Mirza 'Abdu 'l Báki; his grandfather, Mirza Selmán, came to Isfahan in the reign of Shah Abbas; and his father, Mirza Muhammad Rahím, was Hakím Báshí to Shah Sultan Husain Safawí. The poet also followed the profession of a physician, in which capacity he was for some time attached to Nadir Shah. He died 1172.

<sup>2</sup> Mushtác (مشفق) Mír Sayyid Ali, of the Husaini family at Isfahan, was an intimate friend of Lutf Ali, who also studied under him.

<sup>3</sup> Sahbá (صهبا) Ácá Muhammad Takí (تقی). His father was Mulla Yadullah (ید الله), and his grandfather came from Damáwand to Cum, where the poet was born, and where he lived thirty years; since which he had been, the last twenty years, a resident of Isfahan, and died 1191.

<sup>4</sup> Ahmed Hátif (هاتف) was a Sayyid of the Husaini branch at Isfahan; an excellent critic, and unequalled as a poet, both in Arabic and Persian. The specimens given comprehend all the varieties of the Diwan,—Casidáhs, Ghazals, Tetrastichs, and Terjíá-band. The most elegant of the Casidáhs is addressed to Lutf Ali himself, under his poetical name of Azar, and by the beauty of its composition, and the tenderness of its sentiments, fully justifies the praises bestowed on him by his friend in his biography.

<sup>5</sup> "A delightful and facetious companion," between whom and Lutf Ali the greatest intimacy and affection existed. "In the bloom of youth," he assumed the Derwish garb, and came to Isfahan, where he died also, at an early age, 1185. He wrote pleasing poetry, and was well skilled in the art. As a Khúsh-nawís, he obtained such excellence, that "the splendour of Shafíah writing was broken by his Shikastah."

<sup>6</sup> میرزا طیب His poetic name was Táfán (طوفان). "He was a native of Hezár Jeríb, a district of Mazenderan, but removed latterly to Isfahan, and died there." His vein seems to have been satire, as "the people of his day were afraid of the sword of his tongue."

<sup>7</sup> Táyrí (طیری). This youth's name was Muhammad Rabíá (ربیع) and he was a goldwire-drawer in Isfahan. His melancholy disposition at length completely mastering him, he threw himself into a well, "where the Yúsuf of his soul reposed in the well of eternity," 1159. His poems were no longer extant in Lutf Ali's time

and Zahír. Specimens from Hatif's Diwan have been published in the "Mines de l'Orient," and above 900 of his verses are also given here. A still more copious quotation is made from Sabáhi<sup>1</sup>, to whose compositions Lutf Ali declares himself to have been as much attached as he was bound by friendship to his person. From Ááshic<sup>2</sup>, Rafíc<sup>3</sup>, and Mushtác (already mentioned), large extracts are also given. The whole of the Anthology from the works of contemporary authors amounts to 4400 verses, of which nearly three-fourths are selected from those of the above-named five favoured poets.

The last, in alphabetic arrangement, is Hijri (هجري) of Isfahan, whose name was Mírzá Abú'l Cásim, son of Acá Sádíc of Tafrash (صادق تفرشي). He came early in life to Isfahan, and died also young in the district of Resht.

The greater number of the modern poets were driven, by the troubles of that disturbed period, to Hindustan, and shared the usual fate of the learned of their time, embracing the garb of Fakirs and Dervishes, and ending their lives in exile, or by martyrdom. Amongst these, we meet with the name of Muhammad Ali Hazín, whose interesting memoirs are already before the public in the original text, and able translation, published by Mr. Balfour<sup>4</sup>, and whose autobiography presents a similar outline to that of most of the lives epitomized in this latter part of the Atesh Kedah. Lutf Ali states himself not to have been personally acquainted with Hazín, but mentions him as an accomplished man, author of a Diwan (from which a very short quotation is made), and reports his death to have taken place at Benares; which, with the other few particulars of the memoir, agrees with the accounts of him we have already received.

<sup>1</sup> Sabáhi (صباحي), "a youth of angelic nature in a human shape;" - "a companion of soul-cherishing and heart-expanding society;" Suleyman by name, and Selím (سليم mild) in disposition; was a native of a village in the government of Kashan, and in early youth visited Mecca; he attached himself to science, especially poetry. Lutf Ali was his intimate friend, and chose his Takhallus for him.

<sup>2</sup> Acá Muhammad of Isfahan, named Ááshic (عاشق a lover,) supported his claim to that appellation both by his poetry and his habits. He devoted himself chiefly to Ghazals and Tetrastichs, but wrote also some Casidahs, many of which, in an amatory style, are beautiful. Ááshic died 1181; and Sabáhi wrote a Rubá'i containing a Tarikh of his death.

<sup>3</sup> Mulla Husain Rafíc (رفيق) a good poet, and critic; his family was of Isfahan.

<sup>4</sup> "The Life of Sheikh Mohammed Ali Hazin, written by himself," &c. Printed for the Oriental Translation Fund, 1830 and 1831.

Such are the results of Lutf Ali's labours in recording the poetic annals of his country, and it must be allowed that he has very faithfully performed the self-imposed task. The researches of his predecessors have been incorporated with his own, and the whole furnishes a comprehensive, if not methodical, history of Persian literature, from the earliest dawn of its poetry to its sunset in his own age. Although the author does not follow the usual practice of Oriental historians, by enumerating in his preface the principal works he had consulted, he has evidently applied to many others than those more specially biographical. Of the few authorities cited by name, the most frequent reference is to the valuable geographical work, the *Heft Aclim* of Ahmed Rázi; for general history he refers to the *Rawzat al Safá*; for that of the Safides, and the dynasties succeeding them, he quotes the *Álam Aráí Ábbásí* of Iskender Beg, Mirza Mehdi's life of Nadir Shah, and an account of the Zend family by Mirza Sádí<sup>1</sup>. He more than once mentions the *Jámí Rashdí*, of whose author he has given a memoir; and appeals also to the authority of Muhammad Áwfi, and of Ali Culi Lesgi's *Tazki-rah*<sup>2</sup>. It will be seen, from the numerous instances in which he differs from Dowlatshah's opinion, both on points of criticism and facts of biography, that the author of the *Atesh Kedah* is no servile copyist, nor passive disciple of other writers; he has weighed conflicting testimonies, and examined their evidence. In poetical criticism he displays a highly discriminating judgment, and is very far from being led away by general opinion in favour of a popular writer, if he has offended against the proprieties of style, the harmonies of versification, or that purity of sentiment, which though often so grossly violated, even by the professed moral poets of Persia, seems to have its standard among their more refined critics. Where verses of an offensive description have been admitted in this anthology, of which there are certainly some flagrant examples, the difficulty of obtaining other more desirable specimens for its completion, is, perhaps, a plausible excuse for their insertion, contrary to the critic's own condemnation of the perverted taste, which, at one time, made such licentious compositions popular. Of the real beauties of poetry, according to the criterion of Oriental taste, Lutf Ali had a lively perception, and wherever his admiration

<sup>1</sup> Mirza Muhammad Sádí Músawi, the poet Námí of Isfahan, p. 376, note. The "*Tuarikh Zundeáh* of Meerza Saudack," is quoted in Malcolm's *History of Persia*, vol. ii.

<sup>2</sup> See *Wálih*, p. 376.

was excited, he has expressed it in the enthusiastic language of a true lover of the art.

The limited materials of Eastern biography allow but little elegance in the brief narrative of a life, yet the memoirs in the Atesh Kedah, even the shortest of them, are embellished with graceful imagery and variety of expression, while the general preface, and the introduction to the contemporaneous biography, abound in the beauties of the *Ibáratí rangín* (عبارت رنگین), or flowery style, displayed by the best Persian writers, even on historical and scientific subjects. The *Tajníś alloghát* (Anglicè, *pun*), is exhibited in innumerable instances; no opportunity has been neglected of playing on the names of the poets, for which the *Takhallús*, usually possessing an abstract meaning, affords great facility<sup>1</sup>. A few specimens of these fancies have been exhibited in this sketch, untranslated, by which alone their structure can be preserved. However much the severity of modern European criticism condemns this false taste, it must be remembered, that it was constantly practised by our earlier poets<sup>2</sup>, between whose writings and those of the Persians, it constitutes one of many points of resemblance in style, taste, and arrangement.

For the life of Hajji Lutf Ali Beg, few materials are to be obtained beyond the brief, but comprehensive sketch of autobiography, which commences the last division of the Atesh Kedah; some additions may be made from the historical introduction already mentioned, where Lutf Ali's name occasionally appears in connection with the political circumstances it relates. In that narrative, and in many other passages of the work, he describes himself to be of a family of the *Bíkdilí* tribe. "Be it known that this pilgrim in the paths of single-heartedness (سالك مسالك بيكدلي) is of the praiseworthy race of *Bíkdilí* (از دودۀ ستوده بيكدلي)." His account of his tribe may be thus abstracted. "The reason of their being so named, is this: Their descent is from *Bíkdilí Khán*, the third of the four sons of *Oldúz Khán*, who was the third of *Oghúz Khán's* six sons. *Oghúz Khán* was a descendant of Turk

<sup>1</sup> In the preface to the *Hesht Khuld*, a miscellany of Persian poetry, the names of about four hundred poets are ingeniously introduced, so as to make also a connected sense.

<sup>2</sup> Cowley, Shakespeare, &c. Even the Augustan age of Rome was not exempt:

"Quis fuit horrendos primum qui protulit enses?  
Quam verè ferus et ferreus ille fuit!"—OVID.



ben Yáfeth ben Núh, (on whom be peace!) and, on account of his natural talent, became distinguished among the sovereigns of the age by justice and equity of rule, and for glory and magnificence, was designated as the Jemshid of the Túrks. From him are descended all the Sultans and Khans (magnificent as Jem, virtuous as Ferídún) of the Túrki tribes; as it is recorded by Kh'ájah Rashíduddín, of Hámadán, the physician, who by command of Sultán Muhammad Oljáltú wrote a book in description of the genealogy of the Túrks, which is called the Jámí Rashídí, and in which the particulars of the origin and descent of the Awmacs is made known, and their distinctions.

“My ancestors remained constantly in Turkestán, in the exercise of power and command over their tribe and its followers, until in the reign of Sultan Mahmud Ghaznewi, or in the time of the irruption of Chengiz Khán, the Bíkdiís came with a number of other Túrki tribes to Irán, where some of them remained, and took up their abode, while others, in the service of my ancestors, went on directly to Shám, and there settled; till, in the reign of Tímúr, Amír Jehángír, while engaged in the conquest of that region, recognised them as his countrymen, and out of favour and regard to them led them back to Irán on their way to their original dwelling-place in Turkestán. On arriving at Ardebíl, and being in the service of Sultán Álí Siáh-Pósh Safawi, the chiefs of the tribe, by his intercession, obtained permission to leave the camp of Tímúr, and settle in the government of that prince.

“When the sun of the prosperity of the Safawíah dynasty arose from the horizon of glory and empire, they were constantly employed in exalted situations in the service of that family, during the whole period of their rule, from the commencement of the reign of Sháh Ismáíl Safawi to that of Sháh Tahmásp, being 250 years. Now, as many of the tribe as returned from Shám, are called Shámlú (Syrian) Bíkdiís, and such as remained in Irán, and did not go to Shám, are styled, simply, Bíkdiís<sup>1</sup>.” This exposition of the name and descent of his tribe, leads Lutf Ali to the notice of his birth and birth-place, but these and other particulars appear again in a more connected form, in the “Khátimah” devoted to his life. It runs thus:

“Let it not remain unknown to my hearers, that this humble person was born in the seat of government, Isfahán, at a few minutes past one o'clock in the morning of Shambah, the 20th day

<sup>1</sup> Perhaps correctly, *Begdái*, v. “Dynasty of the Kajars,” p. 2.

of Rabíá'ssání, under the horoscope of Pisces, in the year 1134, and about the time of the invasion of Mahmud Ghiljái, the Afghan, by which event my whole family was forced to fly to Cum (God protect it!) Having passed the first fourteen years of my life in that abode of the faithful, at the commencement of the reign of Nádir, my late father of blessed memory being honoured with the government of the district of Lár, and the shores of the Persian Sea, I repaired to Shíráz, the seat of learning. After two years, when the bird of my father's soul had made its nest in the groves of Paradise, I went, in attendance on my late uncle, Hajji Mahmúd, by the way of Irác Árab and Shám, with the intention of pilgrimage to the Holy House of God at Mecca. After obtaining the favour of saluting the Court of his Highness the Seal of the Prophets, and the other Imáms, (on whom be blessing and peace!) I was honoured by the Tawwáf (or procession round the Holy House), and after the performance of the duties of pilgrimage, on my return I visited the angel-guarded threshold of the tomb of Alí Ibn Abí Tálib, and of Husáin ben Álí (on both of whom be blessing and peace!) and the resting-place of the Kázimín' and the Áskerín (on whom be peace!) and repaired to Írác Ájam and Fars. At the end of a year, having a desire to visit the eighth Imam (Ali Riza), the guardian of our faith, I went thither (to Meshhed Ali, or Tús), in company with my brothers, and an assemblage of devout friends, and was favoured by the accomplishment of my wish. About that time the army of Nádir, on his return from the conquest of Hindústán and Turkestán, passing through that holy territory on its way to invade the Jebbál Legziah, I chanced to take my way from Mazenderán, that type of Paradise, to Azarbáiján and from thence to Írác, where I visited Isfahán, the abode of my forefathers. After the assassination of Nádir, I was some time attached to the service of Áli Sháh, and Ibrahím Sháh, and Suláimán Sháh, and Sháh Ismáíl, and by the revolutions of fortune saw what I saw, and suffered what I suffered; and in obedience to the saying, 'Misfortune is best in partnership', I associated myself with a company of Believers, (God guard us, and all the faithful from the vicissitudes of fortune!) and assuming the garb of spiritual poverty, I

1 Or, "May it be preserved from the buffets of fortune!" عن التلاطم  
rhyming with قم. As in other places, اصفهان صببت عن الحدثنان &c.

البلية اذا عمت طابت<sup>1</sup>

waited on a number of the most distinguished of the learned and pious, and of the greatest poets and wits of the day, profiting, to the best of my ability, by the advantages of their society. Having a natural inclination and talent for poetry, in the principal rules of which I had been instructed by that paragon of the age, Mír Sayyid Álí Mushtác', I had composed to the extent of about seven thousand distichs, which were lost in the sacking and destruction of Isfahán, &c." The conclusion is in repetition of his promise to submit to the public some of his own "crude conceptions," for which he deprecates the severity of criticism, and implores the generous indulgence of his friends.

Various passages in the work confirm and illustrate the particulars contained in the above sketch. The year of his birth, in addition to the united testimony of all the MSS., is distinctly indicated by the collateral date of the Afghan invasion. His father's name is given as Ácá Khán<sup>2</sup> in the earlier part of the historic narrative, to which I have so often alluded, where he appears as Governor of Shirwan, and afterwards appointed by Nadir Shah to the government of Lár and Bender Ábbási, to which he went from Cum, accompanied by young Lutf Ali, his son; and it was from the neighbourhood of Bender Ábbási that the "bird of his soul strutted to Paradise." The same narrative introduces the names of many of Lutf Ali's near relations; as that of his uncle, Weli Muhammad Khan, whose memoir appears among those of the contemporary poets under the name of Mesrúr<sup>3</sup>, his Takhallus; and of his two maternal uncles (خالو), Riza Culi Khan Bikdili, and Muhammad Culi Khan Bikdili, who was grand vizir to Sultan Husain, and was put to death by Ashraf, the Afghan; also of two cousins (بنی اعمام), Abdalghaffár Sultán and Muhammad Zémán Khan. Both these last are mentioned, also, in the memoir of the

<sup>1</sup> His life is given among the poets; see p. 377, note 2.

<sup>2</sup> He also calls himself in the preface, "Lutf Ali Ibn Ácá Khán."

<sup>3</sup> "مسرور" Weli Muhammad Khan, uncle to the Author; khan of the Bikdili tribe. In the reign of Shah Tahmasp II., Safawi, he was sent on an embassy to the Emperor of Rúm, and had the government of Kirmán and Azar-báiján. About the time that Nádír Sháh deposed Shah Tahmásp from sovereignty, Weli Muhammad was murdered in the government of Lár by some villains, who, that same year, themselves were made to travel the road of perdition. His Excellency had studied in Isfahán, and was particularly attached to poetry, in the science of which he was well skilled; but the style of the best ancient poets being forgotten in his time, few verses of any merit emanated from his pen."

poet Nedím<sup>1</sup>, who is stated to have been in their service. Muham-mad Zemán Khan is there described as Sipáh Sálár under that government. Mehdi Culi Khán Bíkdili was a cousin by the mother's side. Muştafa Culi Khán Bíkdili, an uncle's son (پسر عم) is stated to have been sent on an embassy to the Ottoman Porte, a mission which had also been executed by Weli Muhammad Khan and by Riza Culi Khan. Ahmed Khán Abdállu appears as a *خالو زاده* another maternal cousin. Finally, Lutf Ali commemorates in terms of great affection and regard his younger brother, Ishac Beg, in a memoir under the name of Úzrú<sup>2</sup>. Another of his relations, Jáfer Beg<sup>3</sup>, enjoys the honour of poetic distinction among the vizirs and nobles in the first book. Hajji Mahmúd (called in some MSS. Mahmúd Beg), whom Lutf Ali accompanied in his pilgrimage, was another uncle (a brother of Lutf Ali's father).

Of his own personal share in the events of those stirring times, Lutf Ali does not give us many particulars. At the time that Ibrahim Shah came to Irac (as related in the narrative), he had the appointment of Daróghahí Defter Kháneh, but the incidents which befel him, cannot, with convenience, be abstracted from the other circumstances in connection with them. He followed the fortunes of the royal house of Sefi to the last, and his attachment is shown in the expressions of respect and almost adoration, with which the name of each monarch of the race is introduced throughout his work. The same feeling seems to have influenced him in the service of that remarkable man, Tahmasp Culi Khan, afterwards Nadir Shah, who, as well as his ultimate successor, Kerim, the *Vakeel*, courted the attachment of the followers of the Sefi family, under the semblance of protectors of the royal rights in the

<sup>1</sup> نديم "Mirza Zeki. His family was of Meshhed Rizawi, but he lived in Isfahan. In the reign of Shah Sultan Husain Safawi, he had the honour of serving my uncle, Muhammad Zeman Khan Bikdili, Sipah Salar of Khorasan, and my maternal uncle, the grand vizir, Weli Muhammad Khan." Mirza Zeki was afterwards in attendance on Nadir, and finally retired from service, and died 1143.

<sup>2</sup> عذري "His noble name was Ishac Beg (احمد). He was my younger brother; a modest and discreet youth, of a tender heart, and of a cheerful and amiable disposition. In the year 1185, the Bulbul of his soul nestled in the tree of Paradise."

<sup>3</sup> جعفر بيگ "A noble of the Bikdili tribe, brother of Muhammad Múmin Khan, grand vizir, and maternal grandfather of the Author."

persons of Shah Tahmasp and Abbas III., and Ismail; the pageants exhibited by them to quiet the scruples of the legitimists.

In recording the events of the latter part of Nadir's reign, Lutf Ali indulges in just indignation at the atrocities by which it was disgraced, and pays his tribute of regret to the memory of the unfortunate Riza Culi.<sup>1</sup> Thus, "tyrant king," "furious monarch," and "wrathful prince," are the epithets he couples with the name of Nadir, designating as a second Chenghiz and Zohak, the conqueror whose earlier glories he eulogizes as those of a Timur and Iskender.

The amiable character of Lutf Ali in private life has a pleasing illustration in the memoirs of his friends, with whom the literary and social friendship he enjoyed formed a delicious contrast of calm to the storms of political contest which had surrounded him in youth and manhood. His friendship for these brother poets gives tenderness and feeling to the various memoirs in which he affectionately records their intellectual and social qualities, and meets its dear reward in the corresponding terms of sympathy and esteem which grace their poetic compositions. Sabáhi, a poet especially distinguished as his friend, devotes a Casidah to the praise of his accomplished Azar (Lutf Ali); a similar effusion, from the pen of Hátif, combines all the graceful tenderness of the Ovidian epistle, with the glowing imagery of the Persian ode. A most attached friend of his is also commemorated as Mirza Muhammad Nasír (نصير). "He was son of the Mesáh of the age, and the Jálínús (Galen) of his time,—the late Mirza Abdallah Tabáb (the physician), who was unequalled for personal and mental accomplishments. Nasír, his son, was absolute master of all the branches of physical, metaphysical, and mathematical science, in which the fame of his excellence was only forgotten in the admiration of his estimable character. He was engaged in the practice of medicine, in which he was, of a truth, a second Khizr and Mesáh. Independent of his professional skill, his patients derived the greatest benefit from his society and friendship; and this nameless person<sup>1</sup> also enjoyed a great share in his affection. His mind was stored with the beauties of Arabic and Persian poetry; and he also composed verses himself<sup>2</sup>. He bid farewell to this perishable world in the early part of the year 1191."

<sup>1</sup> (كمنام) One of the numerous expressions of mock humility employed by Persians, to avoid the egotism of the pronoun.

<sup>2</sup> I have somewhat abridged the pompous periphrases of Lutf Ali's commenda-

I have attempted an English version of a short Casidah by Lutf Ali, but have not succeeded in preserving the graceful Anacreontic turn of the original. It is entitled "Description of Isfahan, and Praise of Mirza Nasir Tabib."

از اصفهان بوی جان آید هی

From Isfahan the zephyr blows  
 Dear home of childhood's happier hours,  
 This morn I met the breeze of dawn;  
 "Perchance," I said, "this herald boy  
 "O bear'st thou greetings from my friends,  
 "And lives there still whose breast with  
 fond  
 Smiling, he said, "Of none I know,  
 "Save that, to greet thine anxious love,  
 "A blessing from Nasir I bear

The fragrance of the musky rose.  
 Where once my lowly dwelling rose.  
 Lightly towards Kashán it goes.  
 Some tidings of my country knows.  
 Who far away in peace repose?  
 Remembrance of this lone one  
 glows?"  
 Of all thy friends—of all thy foes,—  
 To soothe thee in thy cares and woes,  
 For Azar, wheresoe'er he goes."

Lutf Ali's historic sketch of his native city may be interesting. "Isfahan, according to the best accounts, is situated in the third and fourth climate<sup>1</sup>. It was founded by Tahmúras the Pishdádian, and Jemshíd, and Iskender. Kai Cobád, the first of the Kaianian kings, made it his seat of government, and added some fine buildings. It was originally composed of four villages, Báb el Desht, Júbáreh, Báb el Casr, and Gerán<sup>2</sup>. By degrees it became of such great extent that it was styled 'Isfahan, the half of the world.' The temperature of the air is perfection. Its water is that of the Zendeñ Rúd, which flows from the mountains of Shamákhiab, and passes through the city. The climate of Isfahan is remarkably salubrious, so that they say a dead body, if buried, will be preserved in the soil thirty years without decay; and whatever grain is sown in it is never lost. Besides pomegranates and grapes, all kinds of fruit in great abundance, and of excellent quality, are produced in that happy district. It is recorded in the annals of Isfahan, that

tions on his friend; that style having been already sufficiently exemplified in the other lives.

A specimen of Nasir's poetry is given in Waring's "Tour to Sheeraz," in which he is called "Mirza Mihr Nusur" (in another place "Nuseer"). Mr. Waring states him to have been physician to Kerim Khan. In the same work (p. 152) is mentioned the "Atush Kudu, a very late production on biography."

<sup>1</sup> I have not given the lat. and long.; the cyphers are omitted in many copies, and even when inserted, are, like the dates of years, little to be depended on.

<sup>2</sup> The four original villages are differently named in Hamdallah Mestúfi's description, and others.

this city, in compliance with the prayer of Ibrahím Khalífi, is always blest with thirty saints, in memory of its thirty inhabitants, who, in the fulfilment of the apostate Nemrúd's order, stood by the engine<sup>1</sup>, and who, regardless of that tyrant's violence, declared their belief in the true God, in confirmation of the faith of Abraham. The inhabitants of Isfahan were renowned of old for bravery; Káwah, the blacksmith, is a well-known proof of this assertion. In fine, without incurring the slightest suspicion of partiality, one may fairly call it the most excellent of cities. Isfahan has frequently suffered total destruction, and been as often restored. Towards the end of the rule of the Safides, its population had increased to such an extent, that 12,000 families of workmen were employed on the buildings of the city alone, exclusive of those in the villages and dependencies. It is now forty-seven years, &c."

I regret that I am unable to specify the exact date of the composition of the Atesh Kedah. Its author has not recorded the time of its completion, either in figures or chronogram. In the section relating to the poets of Hindustan, he says of Delhi, "And at this time, which is the year 1179 of the Hijrah, from what has befallen the Tátárs by the invasion of Nádir Sháh Afshár, and Ahmed Khán Afghán, it is in the last extremity of ruin and desolation." It was on this authority I stated him (p. 346) to have been still engaged with the work in A.D. 1765. Subsequent examination assigns a later period to the continuance of his labours, and it is reasonable to suppose that the various parts of the Atesh Kedah were arranged at different moments of leisure, or, at least, that a considerable interval occurred between the composition of that portion devoted to the earlier poets and its completion by the addition of those more recent. This latter part was evidently arranged by him in the favourable opportunity afforded by the re-establishment of social order, and during the literary repose he enjoyed in his residence at Shiraz, where Kerim Khan fixed the seat of government at the latter end of his reign. The precise year, however, is difficult to ascertain. So much difference of opinion exists as to the dates of many of the events of the more modern Persian history, that even a calculation founded on the facts Lutf Ali records will not obtain a thoroughly satisfactory result. In speaking of the desolation of the last fifty years, he evidently dates from the Afghan invasion; the same reference fixes the time at which he was composing the section relating

<sup>1</sup> (منجنيق) the balista, by which Abraham was launched into the fiery furnace. See Tabari, &c.

to Irac, where he writes, "It is now forty-seven years since Isfahan has been waste and depopulated." The very latest historical events recorded are the submission and repentance of Kerim's brother, Zeki Khan, the execution of Nazar Ali Khan Taki, and the merited punishment of the atrocious parricide, the Amir Muhenna; this last took place "in this year," viz., that in which the narrative was written. The conclusion returns thanks for the blessing of that government, by whose means the inhabitants of Persia had "reposed in the cradle of security and prosperity for the last eight years."

From the contemporary memoirs we are able to glean dates, which bring down still further the period of their arrangement. A Casidah, by Sabahi, in praise of Kerim Khan, celebrates the completion of the fosse, or خندق of Kashan, and gives the date (Tarikh) 1180 = A.D. 1766. The poet Áashic died in 1181, according to all the MSS. confirmed by a Tarikh composed by Sabahi. The deaths of Nasíb and Hájb are recorded, 1183; the latter, in some MSS. is written 1185, an extent confirmed to the work by Abdu'l Mujíd and Mushrib, both of whose deaths are referred to this later date. The death of Úzri (Ishac Beg) is assigned to the same year, in the versification of Sabáhi; the Tarikh of the Derwish Ábdu'l Mujíd was arranged by Lutf Ali himself. A Casidah of the author gives a Tarikh Súrí of the year 1186, as its date of composition; the deaths of Tufan in 1190, and of Sahba and Nasír, in 1191, are recorded in Tarikh Mánawi<sup>1</sup>, the first by Lutf Ali and the other two by Sabahi. But the latest date of all, and the last link in this little chain of chronology, is furnished by the memoir of Farfbi, the Tarikh on whose death was composed impromptu by Lutf Ali, comprised in the following line<sup>2</sup>, which, by the numerical value of its letters according to the Abjadíah, distinctly indicates the date 1193,

<sup>1</sup> For Táríkh Mánawi, and Táríkh Súrí, see the Dictionary of the "Seven Seas," in which the Chronogram in all its varieties forms the subject of the 46th Anchor of the 2nd Vessel of the 4th Sea, or Volume. The volume has been ably and laboriously analyzed by the distinguished Orientalist and poet, (I might almost say Oriental poet,) Friedrich Rückert, in the Jahrbücher der Literatur.

<sup>2</sup> شد بجدت الماوي حبيب الله "Habfb Allah has departed to heaven," (properly, "to the fourth heaven.") The letters of this verse gives the numbers 300 + 4 + 2 + 3 + 50 + 400 + 1 + 30 + 40 + 1 + 6 + 10 + 40 + 10 + 200 + 7 + 1 + 8 + 2 + 10 + 2 + 1 + 30 + 30 + 5 = 1193.

Habfb Allah ("the friend of God") was Farfbi's name. He was son of Mirza Rajab Ali of Teheran, but was himself born at Isfahan, where he passed his life, and died there. For the amusement of those who may be fond of these trifles, (which are not without their value as a sort of *stereotype* date,) I subjoin the other



confirmed by a separate notation of figures very accurately given in all the copies. Here is, therefore, positive internal evidence of Lutf Ali being still employed on the work in 1779 of our era, nine years later than the date usually ascribed to it. How much longer he lived, is hardly to be determined, in the absence of contemporaneous authorities of more modern date; the place and manner of his death are equally unknown to me; whether he long survived his patron and protector, Kerim Khan<sup>1</sup>, and enjoyed the almost patriarchal age, of which numerous instances<sup>2</sup> occur among the Persian poets, or whether he fell a victim to party strife at the renewal of the civil war, which seemed the inheritance of the successors of the first

Tarikhs quoted as being of Lutf Ali's own arrangement, with one by him, of earlier date, on the death of Khádím. They also serve as specimens of his skill in a branch of the art which seems to have been a favourite literary diversion of himself and his companions.

Epitaph on Derwish Abdu'l Mujid, by Lutf Ali :—

زد رقم خامه آذر زبني تاريخش  
شده ايوان جنان منزل درويش مجيد

Thus Azar in a date records his love,  
"Mujid, the Derwish, rests in heaven above."

On Niyázi, by the same :—

چون شمار سال تاريخش زآذر خواستم  
زد رقم مونس بود با احمد در بهشت

A date I asked from Azar; he replied,  
"In heaven our Ahmed sits by Ahmed's side."

The first Ahmed is the poet; the second, the Prophet.

On Túfán :—

طوفان در دريائي نجف شد زصفا

On Khádím (d. 1155) :—

گفت خادم بچنت آمد باز

In this epitaph, and Niyázi's, the words underlined are alone employed in forming the date. Bááb Cásim Khádím was a poet of Isfahan, where he was for some time Khádím Báshi of the great Ábbási Mosque. He was nephew of a poet named Mir Nejat (نجات). Khádím himself was much skilled in chronograms; another poet well versed in that art was Fidáyí (Hájji Muhammad of Kerman).

<sup>1</sup> 1779 was the year of Kerim Khan's death.

<sup>2</sup> Sádi, Attar, &c. Some of Lutf Ali's own time also lived to a great age; Dááí to more than ninety years, Hájat and Muwahhid about the same.

Zend monarch, I am unable to learn from any source to which I have had access. Possibly the information may be obtained from some of the more recent travellers in Persia, and I shall feel grateful for any communication on a subject which is now of much interest to me<sup>1</sup>.

The memoir of the author's life is followed by a selection from his poems, in which he very liberally fulfils his promise, and has certainly shown a partiality for his own compositions, not quite in accordance with the professions of humility displayed in his allusions to them. The extracts from his Diwan show great versatility of talent, embracing all the various branches of Casidah, Ghazal, and Tetrastich. To these selections, amounting to above two thousand lines, he has prefixed an entire poem on the well-known story of Joseph and Zulaikha, in which, unawed by the great names of Jami and Firdusi, to whose genius it owes its earliest poetic illustration, and undismayed by the ill success of Názim of Herat, whose poem on the subject he has pronounced "not fit to be read," he enrols himself among the numerous versifiers of this favourite romance. As it may be curious to observe what new interest can

<sup>1</sup> The following note, though it chiefly recapitulates the observations of the last pages, is valuable as the communication of the late Claudius James Rich, Esq., preserved in his handwriting in the fly leaf of the Atesh Kedah, in the library of the British Museum. "The author of this work is Lutf Ali Beg Isfahani, of the tribe of Begdali Shamlu, which was brought from Damascus, and established at

Isfahaun, by Timour. The Tekhellus <sup>تخلص</sup> or poetical name of the author, is Azar; he was high in the employment of the government under Nadir Shah, and had seen the last of the Sefiviyahs, in whose service all his ancestors had distinguished themselves as vizirs and ministers. When Kerim Khan came to the throne, he was advanced in years, and quite retired from the world; it was then that he finished this work, which had occupied him for thirty years, and he dedicated it to Kerim Khan; he had taken great pains in the selection and verification of his materials, not crudely copying from the authors of Tezkerehs. The Atesh Gada is in the highest estimation, but, like most of the productions of modern Persian literature, is extremely scarce.

"The above account of Hajee Lutf Ali Beg was communicated to me by Mirza Reza, (Persian Secretary to the Pasha,) a very old man, who was in his youth a scholar of Hajee Lutf Ali's

"Bagdad, January 10th, 1819."

"C. J. R\*."

\* MS. Mus. Brit. 7671. Biblioth. Rich. It is not described in the "Catalogus Collectionis Richianæ," inserted in the "Mines de l'Orient," vols. iii. and iv.

<sup>2</sup> The life of Maulána Názim Herawí is found in its proper place among the poets of Khorasan, Book II. ch. 2.

be given to a theme already apparently exhausted, and to compare its treatment by the earliest, and almost the last of the Persian poets, I propose at a future opportunity<sup>1</sup> to examine Lutf Ali's Mesnawi, which exists here to the extent of 2600 lines, swelling the extracts from his own works to 4800 in all. His Casidahs are chiefly panegyric, commencing with the praises of Ali, and are afterwards addressed to Kerim Khan, and other princes, or ministers; Abul Fat'h Khan, Kerim Khan's son; Ahmed Mirza, Sultan of Khorasan; Mirza Abdalwahháb, the Governor of Isfahan; Mirza Jáfar, the vizir, and Weli Muhammad Beg, the poet's uncles; and his friends, Hajji Sulaiman Sabáhi, and Mirza Muhammad Nasír.

The Takhallus he has adopted is *Azar* (آزر), by which, also, he is addressed in all the poetical epistles of his contemporaries. The name of Azar, Abraham's father, according to the Mahometan legends, a worshipper and maker of idols, though included in the list of names forbidden to be employed by a believer, may not be an inappropriate style for the high-priest of the Idol-temple<sup>2</sup> of Persian song. Possibly the meaning of the word itself (آزر fire), may have influenced the poet of the Fire-temple<sup>3</sup> in his choice, as bearing an allusion to Azarbaijan, the cradle of the Magian worship,

<sup>1</sup> Availing myself of an accurate text of Firdusi's scarce poem, shortly to be edited by W. H. Morley, Esq.

<sup>2</sup> One of the numerous Tazkirahs on Persian poets, quotes a work on the same subject, called the "Butkháneh u Máikháneh" (Idol-temple and Wine-tavern), in the choice of which title its author seems to have been directed by a similar taste to that of Lutf Ali. I have not been able to meet with the work.

<sup>3</sup> This may not be an unfit place to justify the spelling of the word Atesh Kedah throughout this notice, where, in quotation, it appears under such a variety of forms, resulting from the almost irreconcilable diversity of systems founded on the unequal powers of different alphabets. The Dictionary of the King of Oude establishes the orthography thus, "*Atashkadah*," with Fat'hah on the first syllable, and Alif of prolongation; with Fat'hah on the Ta, and with Shin quiescent, and Fat'hah on the Kaf, and Dal, and with round Ha. I have expressed two of the Fat'hahs by *e*, as following a soft consonant. Richardson's Persian Dictionary has "*Atish Gadah*." The word is well translated (by Von Hammer), as "Feuertempel," "Feuerheerde." For Fire-temples, see Hyde, "*Historia Religionis veterum Persarum, &c.*" Numerous remains of these places of Magian worship, still existing in Persia, are mentioned in Sir Wm. Ouseley's Travels, particularly an Ateshgáh, or Ateshkodah, near Isfahan itself. Of

آزر it may be observed, that the same dictionary vocalizes the ز or ذ with Fat'hah, but remarks, that in the Ferhengi Jehangíri that syllable has Zammah. I have followed the usual spelling, though probably not the most correct.

or, rather, as the angel of fire presiding over the ninth Persian month. Shaikh Azarí (آذری) offers a similar instance in the element of which his Takhallus is composed, and an anecdote in the *Ferhengi Jehángírí*, quoted from the *Majális al Úshshác*, represents him to have formed it from the name of the month in which he was born.

It would now be desirable to give a specimen of Lutf Ali's poetry, from the abundant choice he has submitted to us, but I am inclined rather to postpone the critical examination of his genius, than to do him the injustice of testing it by the very hasty process, which the present opportunity would permit.

In concluding a survey of the Atesh Kedah, it is doubtful to which of two merits it chiefly owes its value; to the extensive range of its chronology, or to the variety and luxuriance of its poetic extracts<sup>1</sup>. It is difficult, if not hopeless, to do justice to the respective claims of above eight hundred poets, in a sketch of this limited extent, or even to touch upon the most salient points of their biography; my chief object has been to call the attention of Orientalists to a work, hitherto only known by name, or by a very partial reference, and to establish the claim of the Atesh Kedah to a distinguished rank in modern literature, as the most important native work, which we possess, on the poetical history of the most poetic of all the Eastern nations.

<sup>1</sup> The total number of verses in the whole compilation, amount to above *thirty thousand*; more than equal to a quarter of a Shah Nameh!

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*Note.*—Some apology may be necessary for the appearance of the Oriental words in this sketch, of which many, even in transcription, have lost their uniformity; I have not been very exact in spelling such names as are familiar to the general reader, or easily recognised by Orientalists; where accuracy was of importance, I have given the Arabic type.—N. B.

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# ROYAL ASIATIC SOCIETY.

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## PROCEEDINGS

OF THE

NINETEENTH ANNIVERSARY MEETING OF THE SOCIETY,

HELD ON THE 7TH OF MAY, 1842.

PROFESSOR HORACE HAYMAN WILSON,

THE DIRECTOR OF THE SOCIETY,

IN THE CHAIR.

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### THE ANNUAL REPORT OF THE COUNCIL

WAS READ BY THE HONORARY SECRETARY, AS FOLLOWS:—

It is the melancholy duty of the Council to begin their Report, by referring to the loss which the Society has sustained in the death of its President, the Earl of Munster,—a nobleman whose love for the pursuits of Oriental literature had associated him with the Royal Asiatic Society from its earliest existence, and whose affable and courteous manners endeared him in a peculiar manner to the large circle, with whom he held friendly and familiar intercourse.

The first distinguished person on whom the office of President was conferred had only last year withdrawn from that appointment, in consequence of bodily infirmities, when the active and long-tried attachment to the interests and objects of the Society, evinced by the Earl of Munster, pointed him out as the fit successor to the vacant chair. His services as a Vice-President of the Society had always been rendered so willingly, and so ably, that the most hopeful anticipations were formed of aid from his influence, and encouragement from his exertions, to draw forth the energies, and foster the prosperity of the Institution,—anticipations which were not to be realised. The year of his Presidentship was chiefly passed abroad, in the diligent pursuit of the traces of Oriental literature in the West; and he had just returned to his native land laden with the stores which his diligence had accumulated, and intending to devote his time and talents to impart to the world the results of his labours, when his lamented death put an end to our well-founded hopes.

1842.

6

The strong personal interest evinced by the Earl of Munster in the literature and institutions of the East, may, no doubt, be traced to the visit which he paid to India in 1815, where he was Aide-de-Camp to the Governor-General, the Marquis of Hastings. His stay in Calcutta, although divided between two different periods, little exceeded a twelvemonth; but his frank and cordial manners, his unvarying good humour, and his unaffected kindness, secured for him, in that brief period, the affectionate recollection of all who were at that time members of the society of the Presidency. Accompanying the army, which took the field against the Pindarees under the command of Lord Hastings, the operations of which were arrested by the seasonable compliance of Maharaja Sindhia with the demands of the British Government, he had no opportunity of adding to his laurels as a soldier; but he was eminently distinguished by his active and unhesitating benevolence, in rescuing the native soldiery and followers of the camp from the fatal effects of the cholera, by which the force was most severely visited. Many lives were saved by the promptitude with which he administered, whenever and by whomsoever called upon, the medicines that were found most effectual in subduing the disease. From the farthest point to which the grand army advanced,—the Western frontier of Bundelcund,—Captain Fitzclarence was sent to England with despatches from the Governor-General, by way of Bombay and the Red Sea; and the mission was necessarily productive of an improved acquaintance with the country, to an extent which few, especially in so short an interval, have the means of acquiring. The account of his journey was published in 1819, and describes, in an unpretending but accurate and graphic style, the scenes and occurrences that came under the writer's view. From Bundelcund, Captain Fitzclarence travelled by Gurrah and Jubbulpore to the valley of the Nurbudda. At Jubbulpore, he was present at a brilliant action between a division of the British army and the forces of Berar, in which the latter were entirely defeated. From the Nurbudda he proceeded to Nagpore, and thence to Aurungabad, passing through a country traversed in all directions by the Peshwa's troops. This did not prevent him from gratifying a lively and intelligent curiosity; and he visited, at some personal risk, the celebrated Caves of Ellora, whose solemnity and magnificence made an indelible impression on his mind. From Bombay, Captain Fitzclarence proceeded up the Red Sea to Cassair; and thence, down the Nile to Cairo. At the time of his arrival at the capital of Egypt, research was busy under the most happy combination of judgment and activity that has ever been employed upon disinterring the remains of Egyptian art; and it was under the auspices of Messrs. Salt and Belsoni that Captain Fitzclarence penetrated into the dark chambers of the Pyramids, or ascended to their summits.

Although the important results of the living transactions which he witnessed, and the striking character of the reliques of antiquity which he contemplated, are fully estimated by Captain Fitzclarence, and constitute the most valuable portion of his book, it is not difficult to detect the direc-



tion of his prevailing tastes, and the origin of those inquiries which he latterly prosecuted with such unabated zeal. His feelings were essentially military; and they enjoyed singular opportunities of being gratified. After sharing personally in that struggle in the Peninsula, in which the mightiest energies and most profound combinations of the military power and science of Europe were displayed, Captain Fitzclarence, on coming to India, was again a participator in military movements in which European discipline and skill were blended, and not unfrequently contrasted, with the yet animated representations of warfare in the middle ages; and the orderly array, and the perfect arms of the British forces, were confronted with the diversified weapons, and irregular evolutions of Pindaree hordes, and Mahratta cavalry. There are in the journal of his travels, repeated proofs of the effect produced upon his mind by the scenes which he beheld; and from them, no doubt, sprung up the germ of those labours to which the greater part of his leisure in this country was devoted, and which, if brought to completion, would, there is reason to hope, have adorned the elevated station to which he had been raised, with the no less merited honours of literary distinction.

The feeling of interest which he brought from India, naturally enrolled Colonel Fitzclarence amongst the original Members of the Royal Asiatic Society. In 1828 he was elected one of our Vice-Presidents, and in that capacity exhibited a continued and zealous interest in the promotion of the objects and interests of the Society; in acknowledgement of which, as well as of his many claims to our esteem and regard, he was elected President at our last Anniversary. The connexion, of which we were justly proud, and upon which we anticipated the most entire satisfaction and advantage, has been abruptly sundered; and the thanks to which he would have been entitled had he continued among us, are changed to an unavailing record of his deserts.

The active part taken by the Earl of Munster in the foundation and management of the Oriental Translation Fund, will be adverted to in that Committee's Report: it is sufficient here to observe that his influence engaged in its support the most powerful and illustrious patronage; and that his own countenance and encouragement were never withheld from literary exertion; and were ever afforded with the kindest consideration, and most generous liberality.

Impressed with a conviction that nothing was more conducive to the success of Oriental study than the multiplication of Oriental books by means of the press, the Earl of Munster readily and zealously co-operated in the formation of another kindred institution, and was President of the Society for the Publication of Oriental Texts.

In adverting more particularly to the main objects of Lord Munster's labours in connexion with Oriental literature, the Society has been favoured with some details by a learned foreigner, Dr. Sprenger, who had for some time past assisted the noble Lord in collecting and arranging the materials for the work in which he was engaged, the substance of which may not be

uninteresting to the Meeting. According to his authority, Lord Munster, biassed by the military tastes to which allusion has been already made, first undertook to investigate the circumstances of the invasions of India by the Mongols. His views expanding with his inquiries, he conceived, about thirteen years since, the plan of writing a history of the art of war as practised by the Mohammedans, from the rise of their religion and political power, until their decline. Commencing with the simple tactics of the Bedouin Arabs, which, inspired by religious fanaticism, overwhelmed the disciplined legions of Persia and the Greek empire, Lord Munster followed their progress until in Spain they had systematised their valour, and introduced innovations in Arab warfare, the effects of which extended to the chivalry of Europe. As the subject was developed, however, it was impossible not to see that the consideration of the improvements which took place in the art of war, in the means by which it was exercised, and in the spirit by which it was animated, was inseparably connected with the study of the progress of the Mohammedans in civilization and in arts, as well as in war.

It was very soon evident to Lord Munster, that notwithstanding the modifications to which time and circumstances subjected the progress of the Mohammedans in the West in civilization, and in military science, both continued to retain a peculiar impress stamped upon them from the remotest periods by the predominating spirit of Orientalism; and it was therefore an object to trace this character to its source, in the traditions, manners and institutions of the more Eastern nations, from the days of the Sassanian kings of Persia, to the earlier dynasties of that country, and to the still older monarchies of India and of China; thus forming a connected history of the progress made by the nations of the East from the doubtful dawn of authentic history, to the more certain meridian of modern times; from the wars of the Mahabharata, down through those of Mohammed, Chinghiz Khan, and Timur, to the military regulations of Hyder and of Tipú.

For the full elucidation of subjects so comprehensive, and embracing so many languages, and the literature of such different people, materials were accumulated by the Earl of Munster with the most unwearied patience and indefatigable industry. To all printed books in which any bearing upon his researches could be discovered, and of which the passages were extracted and noted, his Lordship added all similar passages that were to be found in Arabic and Persian MSS., many of them of the rarest description, and furnished to him by the libraries of this country and the Continent; those of the East India Company, of this Society, of the University of Cambridge, and of those of Leyden, Gotha, and St. Petersburg. Two years ago, when on a visit to the Continent, Lord Munster printed and circulated a list, in Arabic, of MSS. in various Oriental languages which he was desirous of obtaining; and during the past year, being again abroad, he visited the principal Oriental collections in Holland, Germany, and Italy, and added largely to his stock of materials. He also entered into communication with a number of the most distinguished Oriental scholars on the Continent, and gave fresh stimulus to their studies, by the assurances of encouragement

and co-operation on his own part, and that of the Orientalists of this country.

Notwithstanding the time and labour that have been bestowed upon this great undertaking, there is reason to fear that it has been left in a state in which no other hand can venture to reduce it to an available form.

According to Dr. Sprenger, the materials occupy about 2000 quires of foolscap paper; but these are chiefly extracts and translations from Eastern writers. There is likewise a valuable Glossary of military and technical terms, chiefly from the Arabic, extending to about 6000 words. There is also a great variety of Notes and Memoranda, which, although collected no doubt at the cost of much time and trouble, are but Sibylline leaves to any one but to him who collected them and knew how to use them. It is to be apprehended, therefore, that the honourable ambition of leaving nothing imperfectly done, or altogether omitted, may have frustrated the hopes of years, and rendered the labour of little service to others; although, as a labour of love, it must have been the source of deep and unadulterated enjoyment to the author.

Although chiefly occupied with his principal object, the Earl of Munster was not unmindful, whilst on the Continent, of the interests of this Society. One paper written by him has been read at one of our meetings; and another had been designed for us, upon the state of Oriental Literature on the Continent. These were but the fruits of the noble writer's leisure; but independently of any other interest that may belong to them, they are precious to us as the posthumous proofs of that desire to promote and assist the purposes of the Society,—of that interest in the extension of Oriental inquiry and study,—which formed so prominent a feature in the character of the Earl of Munster, and which entitles his memory, as it entitled him whilst amongst us, to our affection and gratitude.

The number of deaths which the Society has to lament is smaller this year than usual, notwithstanding the addition to the ordinary casualties by the recent disasters in Afghanistan, which have deprived us of two valuable Members. The following is a list of deaths:—

Sir Alexander Burnes,  
 Captain W. Broadfoot,  
 Richard W. Cox, Esq.,  
 James Ede, Esq.,  
 Sir Francis Forbes,  
 Kirkman Finlay, Esq.,  
 William Harrison, Esq.,  
 A. B. Lambert, Esq.,  
 The Earl of Munster,  
 James Mackenzie, Esq.,  
 Sir Thomas Strange,  
 Professor Othmar Frank,  
 Professor Heeren.

Few men have in a short period of active service occupied a greater share in the public interest, and few have fallen more generally lamented, than Sir Alexander Burnes. Not a year had elapsed after his first arrival in India, at the early age of sixteen, before he was officially employed as an interpreter, and when not twenty years old, he held the distinguished appointment of Persian Interpreter to a force assembled for service in Scinde. A notice of his journey to Lahore, to deliver to Runjeet Sing a present of some horses of an extraordinary size, sent by the King of England to the Maharaja, and the information which he then collected on the geography of the Indus, are before the public, as are also the details of his subsequent expedition into Central Asia. It was the publication of these interesting Journals that established his fame as an enterprising and instructive traveller, and his return shortly afterwards for a time to his native country was hailed by the learned and the curious, who vied with each other in the marks of honour and esteem with which they testified their sense of his merits. On the occasion of his attendance in this room, to receive a Diploma of Honorary Member, he expressed his opinion of the benefits which such a Society as ours was calculated to produce, in terms of much earnestness, and drawing forth a copy of the paper of *Desiderata and Enquiries*, printed in 1827, and which he had always carried about with him as the guide of his investigations, he deposited it as a memorial of his appearance here on the occasion referred to, and of the high value he attached to the labours and designs of the Royal Asiatic Society.

Soon after his return to India, Captain Burnes was despatched to Hyderabad, to ward off, by negotiation, a war with Scinde, of which the risk had appeared imminent; in this he completely succeeded. The Ameer consented to a survey of the Indus; abolished the practice of plundering stranded vessels; and declared their willingness to admit a British Resident, though upon conditions which the Indian Government found themselves compelled to decline.

On his return from Hyderabad, in 1836, he was selected to proceed, on a special duty, on which he was engaged till 1838, to Cabul. A narrative of the history of this expedition has just issued from the press.

The Indian army passed the Indus at no long interval after his return. It was preceded by Burnes, who advanced to make preparations for the Commissariat department; and he was at Shikarpore when he received the announcement of his promotion to a lieutenant-colonelcy, and of his advancement to the honour of knighthood. Early in 1839, he joined the forces, and in September he was appointed to a high political station at Cabul, where he remained until his death, in the month of November, 1841.

Sir Alexander Burnes was a man whose intellectual character may be inferred from his actions. His powers of observation, and his rapid and almost intuitive perception of the intentions of those with whom he was in communication, peculiarly fitted him for the difficult missions with which he was intrusted; while the ease with which he mastered the languages of the East, and his readiness to fall in with the customs, and even to adopt the

habits of the varied population of Asia, gave him peculiar facility for the exercise of his natural powers. He was simple in his manners, and most amiable in his private intercourse, an affectionate brother, and an attached and dutiful son.

The name of Sir Thomas Strange is familiar to all who take an interest in the administration of justice in India. He was one of the sons of that eminent engraver, Sir Robert Strange, and received his early education at Westminster School, whence he proceeded to Christ Church, Oxford. At an early stage of his professional life, he was appointed Chief Justice of Nova Scotia. After a residence of some years in North America, he was chosen to be the first Recorder of Madras in 1798; and on the establishment of a Supreme Court of Judicature at that Presidency, in 1801, Sir Thomas Strange was nominated the first Chief Justice, and he continued to hold that distinguished place till he retired from the active labours of the judicial office in 1819.

Although Sir Thomas Strange had not acquired the languages of the East, he had constant intercourse with many intelligent and learned natives who could converse in English, and with others, through the medium of able interpreters. He had thoroughly studied those works on Indian jurisprudence which our learned countrymen had translated into English, and was familiar with all that had been written to illustrate the history and literature of India, in which he always took the most lively interest. It was the desire of Sir Thomas Strange not only to be well-informed, but to make the result of his labours and professional experience useful to others. With this view, and at a heavy pecuniary cost to himself, he gave to the world two valuable works; the one contains reports of the Cases adjudged in the Supreme Court at Madras, in which many questions of great interest in the Hindu Law are ably treated; and some remarkable issues regarding the rights of property in the soil enjoyed by the mirasidars, or landed proprietors, in the immediate neighbourhood of Madras, under peculiar institutions and ancient usages still existent there, are largely discussed. The other work for which we are indebted to the laborious industry of Sir Thomas Strange, is entitled *Elements of Hindu Law*, of which the first volume contains an exposition of the great principles of Hindu jurisprudence on the important subjects of the nature of property, the rights of inheritance and partition, the obligations and privileges resulting from the various relations of parentage, marriage, and adoption, the causes and consequences of slavery, and the law of contracts. These several topics are comprehensively exhibited with advertence to the various schools whose doctrines prevail in different portions of our Indian empire, and, to add to the interest of the subject, a comparison is frequently drawn, and traces of remarkable resemblance pointed out, between the Indian and the Roman and other codes. The second volume of the work is one of peculiar value, as containing a large collection of original opinions of learned pundits attached to the courts established by the East India Company in the Madras territories, enriched by many notes of that eminent

scholar, the late Director of this Society, H. T. Colebrooke, and several by a gentleman more than any other, before or since his time, deeply versed in the learning of Southern India, F. W. Ellis, who, after twenty years' assiduous devotion of his time and talents to the languages, literature, history and traditions, the local laws, usages, rights and privileges, of the natives of those interesting countries, was, with awful suddenness, lost to the world, at the very time when he was commencing to render his great acquirements serviceable to others, and was meditating a series of publications on the varied subjects of his extensive research.

The service thus rendered by Sir Thomas Strange is not only available to the courts established under the Royal Charter, which administer a restricted jurisdiction over the natives of the land, but is also found of great assistance to those many judicial functionaries who are charged with the administration of justice in a wider range, and take cognizance of complicated and varied interests in the extensive territories under the rule of the East India Company; and it is a noble proof of the enlarged liberality of Sir Thomas Strange, that he sent out copies of his work on Hindu Law to be presented, without charge, to the several courts under the presidency of Fort St. George.

As an accomplished scholar, a kind and courteous gentleman, and a most agreeable companion, Sir Thomas Strange will long be remembered by very many of the members of this Society.

Professor Heeren, of Göttingen, was elected a Foreign Member of the Royal Asiatic Society, in acknowledgment of the distinguished ability and erudition with which he had illustrated the ancient history of the East. In his researches into the politics, intercourse, and trade, of the principal nations of antiquity, he has collected a number of interesting and important details regarding the Persians and the Indians, from the most authentic sources.

At the time at which his work was first compiled, in 1814, his authorities were in some respects defective, and the degree of estimation which they merited inaccurately understood; and it is some subject of regret, that in later editions of his work, the author availed himself but little of the progress of sound information. Notwithstanding this defect, however, HEEREN'S *Researches* form a work of great value, and will be advantageously consulted on many subjects connected with the early civilization and commerce of the East. The venerable author died at Göttingen, in the eighty-first year of his age.

Professor Othmar Frank, of Munich, possesses peculiar claims to the respect of the Society, having been engaged through a long series of years in the cultivation of various departments of Oriental literature. His earliest studies were addressed to the literature and ancient institutions of Persia; and as far back as 1808, he published some illustrations of these subjects in a work entitled "Das Licht vom Orient," Light from the East. Of late years, his attention has been principally engrossed by Sanskrit; and, notwithstanding the difficulties which he had to encounter in the scarcity of

books, and still greater rarity of MSS., and in the want of a fount of Nagari type, he published, either separately, or in the Transactions of the Royal Bavarian Academy, a number of interesting and learned dissertations, illustrated by the original Sanskrit texts, upon subjects of Sanskrit Philology, or the Philosophy, Mythology, and Institutions of the Hindus.

As a contributor, also, to the Literary Review (*Gelehrte Anzeigen*) of Munich, he was a vigilant and ready commentator upon every thing that was published in this department of literature, particularly in India and in England; and in all his reviews displayed, not only extent and soundness of acquirements, but a spirit of candour and liberality equally creditable to the critic and the man.

The learned Professor favoured the Society with the following of his works, in German or Latin:—

Vyasa, on the Philosophy, &c. of the Hindus;

Grammatika Sanskrita;

Chrestomathia Sanskrita;

Vedanta Sara, Sanskrit and German;

On a Monument of the Indian Mythology; and on the Connexion of India with Egypt.

The loss of Members by retirement amounts to six, and four names have been removed from the list under the provisions of Article 53\*, which, added to the number who have died, namely ten, makes the total loss of contributing Members twenty. The number of new elections has been as follows:—Of Contributing Members, fourteen; Honorary Members, two; and Foreign, one †. The Society has therefore suffered a loss of six in the total number of contributing Members; which loss, though small in comparison with that of 1840, must still be viewed with regret, when the operations and benefits which the Society is calculated to effect, are so lamentably cramped by the insufficiency of its resources. The Report of the Auditors, which will be submitted, will show that expenditure is now trenching upon income, although in the present year, as in the last, one number only of the Journal has been printed. So many Societies, both in India and England, now participate with the Royal Asiatic Society in the diffusion of various information on the subjects to which its labours are directed, that it is not exclusively to the interest of its Transactions, but also to the value of its Library and Museum, and to the uses that may be

\* *Retirements*.—J. Mawdsley, Esq., C. A. Talk, Esq., Henry Laver, Esq., J. Dyce Nicol, Esq., Thomas Teed, Esq., Dr. A. B. Granville.

*Removals by Article 53*.—Philip Barnes, Esq., Sir Henry Willoughby, Bart., Henry Pownall, Esq., Dr. W. C. Taylor.

† *Resident and Non-Resident*.—Lieut. T. J. Newbold, Charles Russell, Esq., M.P., Lieut. Col. W. Borthwick, Sir Thomas Phillips, Henry Jones, Esq., Capt. H. N. Ramsay, William Jardine, Esq., Rev. J. W. Berry, Edward Wallace, Esq., Lieut. E. B. Eastwick, W. E. Frere, Esq., George Parbury, Esq., Thomas Williamson, Esq., Henry S. Lawford, Esq.

*Corresponding Members*.—The Rev. P. Parker, M.D., T. Tradescant Lay, Esq., Signor G. Michelotti, Johannes Avdall, Esq.

*Foreign Member*.—M. Alexandre de Chodako.

*Honorary Members*.—H. R. H. Prince John of Saxony, His Excellency Count Castiglione

made of them, to its records and various deposits, and to the facilities which these are calculated to afford in the pursuit of study, and to the ready means of communication between persons interested in all that concerns the past and present state of the East, that we must look for the advantages which accrue from the existence of this Society, and the association of its Members. These advantages are capable of much and extended development; but justice cannot be done to any scheme that presents itself, unless the funds be increased so as to afford means for the systematic enlargement of the Library, for the proper exhibition of the Museum, and even for the very acceptance of proffered additions to its stores, which have been more than once necessarily declined, from the want of space to receive them in. In this view of the state of the Society, while we rejoice that the supply of new Members has exceeded by four the losses by death, and nearly balances the further diminution by retirement, the Council must still urge on the Members the importance of individual exertion to add to the numbers of Contributors, and the opportune exercise of whatever influence they may respectively possess to obtain relief from the charge for house-rent, which presses so heavily on our limited resources. To these objects the attention of the Council has not been wanting during the past year; but that period, owing to various circumstances which must present themselves to the minds of all our Members, has not been propitious to their earnest desires in these respects. Their best endeavours will not, however, fail to be exerted towards the attainment of the ends so much to be desired; and they will rely with confidence upon receiving from the Members of the Society a zealous and active co-operation.

Although, as already noticed, means are at present wanting to a systematic completion of the various branches of literary collections by purchasing for the library many works which it ought to possess, and in which it is yet deficient, the Members who attend our Meeting have witnessed, during the past year, the presentation of many curious and valuable works by their respective authors, and by the Hon. East India Company; and of the Transactions of many learned Societies, both at home and abroad. But the Council feel assured that the Meeting would deem it an act of great neglect, if the Report failed to advert to a most choice collection of beautiful Persian MSS., bequeathed to them by the late N. B. Edmonstone, Esq., among which a copy of the Gulistan, splendidly illuminated, and an exquisitely written copy of the letters of Abul Fazl, claim especial notice, and will take their place among the most valuable and highly prized works in the possession of the Society. Another bequest also calls for remark: it is that of about eighty volumes of Oriental MSS. and printed books, mostly Turkish, but some Persian, bequeathed to the Society by the late General Thomas Gordon. The printed works are from the Imperial Press at Constantinople, and are mostly new to our library. Several curious and interesting Chinese works have likewise been added to our already large collections in that language, by the kindness of Sir George Staunton.



The XIIIth Number of the Society's Journal, of which a few copies are on the table, and which will shortly be in the hands of the Members, will present to its readers a much greater variety of papers than the former one; and among the most valuable of the several contributions which its pages contain, will be found a series of Reports on the Mineral Resources of Southern India, from the pen of that accomplished geologist and intelligent traveller, Lieut. Newbold, of the Madras army. The Series is not, however, exhausted, but will be continued in a future Number; and the information which they convey will, it is considered from its character of detail and accuracy, be found of great value at a time when the natural resources of our Indian possessions are beginning to attract the attention to which they have so just a claim.

The Council regret to observe that they have not received any contributions this year from the Branch Societies of Bengal, Madras, or Bombay.

It has always been the practice of the Council to make some mention at its Annual Meetings of the proceedings of the Oriental Translation Committee; and the Secretary to that Institution has furnished them with the following particulars of the operations of that body during the past year.

Although no book has been actually published since the last Anniversary of the Society, the printing-press, both at home and on the Continent, has been actively employed for the Oriental Translation Committee, in the production of the under-mentioned important works:—

1. Quatremère's translation into French, of Makrizi's History of the Mamluk Sultans of Egypt; vol. ii.
2. M. Dubeux's Chronique de Tabari; tome ii.; translated from the Arabic.
3. Don Pascual de Gayangoz's translation from the Arabic of Al-Makkari's History of the Mohammedan Dynasties in Spain; vol. ii.
4. Haji Khalfæ Lexicon Encyclopædicum et Bibliographicum. Edidit Gustavus Fluegel; tome iii.
5. The Sama Veda; translated from the Sanskrit, by the Rev. Dr. Stevenson, of Bombay.
6. History of Hyder Ali, translated from the Persian, by Col. W. Miles.
7. Ibn Khallikan's Biographical Dictionary of Illustrious Men of Islamism, translated from the Arabic, by Baron MacGuckin de Slane.

The first volume of the last mentioned work, comprising nearly 700 quarto pages, was printed at Paris, and is now lying at the Custom House. It will be published in the course of the present month, and will, doubtless, be heartily welcomed by Students of Oriental history and literature.

Haji Khalfæ's Lexicon, the Sama Veda, and the Nishan-i-Haidari, are nearly ready for publication.

Of the works in the course of preparation for the press, may be noticed the following:—

1. The Second Volume of Masudi's Meadows of Gold and Mines of Pearls; translated from the Arabic, by Dr. Sprenger.
2. The Dabistán; translated in part by the late D. Shea, Esq., and continued by Capt. Troyer.
3. The Kitab-al-Yamini; translated from the Arabic, by the Rev. J. Reynolds.
4. The Jámi al Tuwárikh; translated from the Persian, by W. H. Morley, Esq.
5. The Li-ki; translated from the Chinese, by M. Julien, of Paris.

It is hoped that the utility, interest, and importance of the above-mentioned works, will fully maintain the high repute which the Oriental Translation Committee has so long enjoyed; and, by increasing the number of its supporters, tend to retrieve some of the misfortune it has recently suffered from deaths among its Members.

The common loss which the whole Society has sustained by the decease of the Earl of Munster, is more than proportionally shared by the Oriental Translation Committee, of which His Lordship was Vice-Chairman and Treasurer. The taste which this lamented nobleman possessed for Oriental studies, induced him warmly to promote the exertions of the Committee, as a means of rendering the labours of Oriental scholars publicly available, and of exciting a general interest in Oriental literature. His readiness to forward and encourage Eastern learning, was seconded by a kindness which rendered that readiness doubly acceptable; and many scholars, not only in Great Britain, but in Europe, will long regret an event which has deprived them of a liberal Patron.

His Lordship was one of the founders of the Oriental Translation Committee, and his zeal in promoting its success never abated.

Another name, calling forth melancholy associations, that of Sir William Macnaghten, must be mentioned in the Committee's Obituary. Sir William's acquirements in Oriental literature are well known; and he was one of the warmest supporters of the Oriental Translation Fund.

The late Rev. Dr. Nott, of Winchester, was also a subscriber and patron of the Fund.

The extensive nature of the undertakings already sanctioned by the Committee, and now on hand, have precluded it from entertaining some offers of Oriental Scholars. It has recently, however, determined to accede to a proposal of M. Alexandre de Chodzko, to publish portions of his translations from dialects spoken by tribes in the neighbourhood of the Caspian Sea; and of which little is at present known in Europe.

The institution of a Society for the publication of Standard Works in the Oriental languages was brought to the notice of this Society at the last

Anniversary Meeting, and its proceedings cannot fail to attract our interest as calculated most essentially to forward one of the great objects for which the Royal Asiatic Society was established,—the promotion of Oriental study. The operations of the Oriental Text Society are yet in their earliest stage, but they are sufficient to indicate what may be expected from its continued activity.

The first part of the Asiatic work on Religious Sects and Systems of Philosophy, the *Kitab al Milal wa al Nahil*, of Sharistani, edited by the Rev. W. Cureton, has been published, and the second part is in the press. The first pages of the *Sama Veda*, collated by the Rev. Mr. Stevenson, of Bombay, and conducted through the press by Professor Wilson, are printed; as are those of the *Vrihadaranyaka Upanishad*, by M. Louis Poley. The printing of the Syriac text of the long lost work of Eusebius, *περὶ Θεοφανείας*, is also about to be commenced by Professor Lee. The various other interesting and important works announced, as in course of preparation for the press, are all in active progress.

In common with the other institutions devoted to Oriental literature, the Oriental Text Society has to lament the loss of its President, in the Earl of Munster, who took a warm and generous interest in promoting the objects for which it was founded. His place has been supplied by Sir G. Ouseley, and the vacancy occasioned by his election, in the list of Vice-Presidents, has been filled up by the acceptance of that office by the Earl of Powis.

The Report of the Auditors on the Financial affairs of the Society was read by S. BALL, Esq., as follows :

### AUDITORS' ACCOUNT.

The Auditors have the honour to lay before the Society the Accounts of the past year, ending 31st of December, 1841.

On examination of these Accounts, they will be found to exhibit a balance in favour of the Society, amounting to 385*l.* 16*s.* 8*d.*, towards the expenses of the current year; which is a trifle more than the surplus which remained in hand at the end of the preceding year, 1840. It will also be seen that the Receipt had exceeded the Expenditure by 29*l.* 9*s.* 4*d.* But it must be observed that there are two items in the Account of Receipt, the one being a payment from the Committee of Commerce and Agriculture, amounting to 101*l.* 9*s.* 2*d.*, the balance remaining in the hands of that Committee at the time of its dissolution; and the other being a payment from Bombay of 42*l.* 19*s.* 6*d.*, on account of receipts during a series of years, (1830 to 1841,) for the sale of the Society's publications at that Presidency. These sums together amount to 144*l.* 18*s.* 8*d.*, which, not being derived from regular sources of revenue, cannot be admitted, unreservedly, as a part of the Annual Receipt. Taking this view of the

Account, it will then appear that the Expenditure of the Society has exceeded the Receipt by the sum of 114*l.* 19*s.* 4*d.*; and as on reference to the Accounts of last year, they also find that there was then an excess of Expenditure above Receipt, it becomes a question whether the Society has not arrived at a period in which is involved a prospective embarrassment in its finances.

On the other hand, it is fair to observe that the Annual payment of 100*l.* from the Oriental Translation Fund, has not been made during the past year, and that the same payment is in arrear since 1834. The Auditors also learn that there are no outstanding debts; and it appears from the Estimate of Receipts and Disbursements for the year 1842, as delivered to them by the Secretary, that the ordinary Receipts are expected to be balanced by the ordinary Expenditure.

The Auditors, however, cannot contemplate the state of the Society's finances without anxiety, and therefore earnestly beg to call the attention of the Members to their suggestions of former years.

The Assets of the Society may be estimated as follows:—

|  | £.     | s. | d. |
|--|--------|----|----|
| Value of Stock in 3 per cent. Consols . . . . .                            | 1800   | 0  | 0  |
| Ditto of Library, Museum, Stock of Publications,<br>Furniture, &c. . . . . | 3500   | 0  | 0  |
| Total . . . . .  | £.5300 | 0  | 0  |

The Auditors beg to repeat their satisfaction with the mode in which the Accounts of the Society are kept by the Treasurer and the Honorary Secretary.

SAM. BALL,  
J. GUILLEMARD,  
W. H. SYKES.

14, GRAFTON STREET, BOND STREET,  
7th May, 1842.

## STATEMENT No. 1.

## ABSTRACT OF RECEIPTS AND DISBURSEMENTS, from 1st January to 31st December, 1841.

| RECEIPTS.  |          | DISBURSEMENTS.  |            |
|--|----------|---|------------|
| £  | s. d.    | £   | s. d.      |
| 119 Subscriptions of Resident Members, at 3 <i>l.</i> 3 <i>s.</i> each . . . . . | 374 17 0 | House Rent, one Year . . . . .  | 220 5 0    |
| 64 ditto, ditto, at 2 <i>l.</i> 2 <i>s.</i> each . . . . .                       | 134 8 0  | Rates and Taxes . . . . .   | 45 9 8     |
| 7 ditto, Non-Resident, at 2 <i>l.</i> 2 <i>s.</i> each . . . . .                 | 14 14 0  | Salaries of Assistant-Secretary, Clerk, and Porter . . . . .  | 225 0 0    |
| Arrears of Subscription paid up . . . . .  | 21 0 0   | Printer's Bill, for Journal, No. XII. . . . .   | 238 2 0    |
| Admission Fees of 5 New Members, at 5 <i>s.</i> each . . . . .                   | 26 5 0   | Lithographer's Bill . . . . .   | 17 0 0     |
| 1 Composition, 3 <i>l.</i> 10 <i>s.</i> . . . . .                                | 31 10 0  | Stationery, 1 <i>l.</i> 14 <i>s.</i> 6 <i>d.</i> ; Bookbinding, 1 <i>l.</i> 11 <i>s.</i> 2 <i>d.</i> . . . . .                        | 28 5 8     |
| 2 ditto, at 2 <i>l.</i> . . . . .  | 42 0 0   | Cooks, 15 <i>l.</i> 4 <i>s.</i> ; Plumber and Glazier, 5 <i>l.</i> 2 <i>s.</i> 6 <i>d.</i> . . . . .                                  | 20 7 6     |
| 1 Balance of Composition . . . . .   | 10 10 0  | Collector's Postage . . . . .   | 29 0 0     |
| Annual Donation of East India Company . . . . .                                  | 105 0 0  | Periodicals, 3 <i>l.</i> 19 <i>s.</i> ; Miscellanies, 7 <i>l.</i> 9 <i>s.</i> 2 <i>d.</i> . . . . .                                   | 89 1 4     |
| One Year's Dividends on 3 per cent. Consols . . . . .                            | 58 5 8   | Impress to Secretary, 139 <i>l.</i> , expended as follows:—   |            |
| Sale of Publications in London and Paris . . . . .                               | 31 9 0   | Housekeeper's Account, 34 <i>l.</i> 13 <i>s.</i> 10 <i>d.</i> ;   |            |
| Ditto, per Leckie and Co., Bombay . . . . .                                      | 42 19 6  | Ditto Wages, 46 <i>l.</i> . . . . .   | 70 13 10   |
| Cash transferred by Committee of Commerce and Agriculture . . . . .              |          | Postage and Carriage, 17 <i>l.</i> 17 <i>s.</i> 7 <i>d.</i> ;   |            |
| Total Receipt, 1841 . . . . .  | £394 7 4 | Freight, &c., 7 <i>l.</i> 19 <i>s.</i> 4 <i>d.</i> . . . . .  | 25 16 11   |
| Add Balance in hand, 31st December, 1840 . . . . .                               | 356 7 4  | Carpenter, 7 <i>l.</i> 10 <i>s.</i> 11 <i>d.</i> ; Armourer, 6 <i>l.</i> ;  | 13 10 11   |
|  |          | Sewers' Rate, 1 <i>l.</i> 17 <i>s.</i> 6 <i>d.</i> ; Fire Insurance, 2 <i>l.</i> 5 <i>s.</i> . . . . .                                | 4 2 6      |
|  |          | Sundries, 6 <i>l.</i> 12 <i>s.</i> 3 <i>d.</i> ; Due to Secretary, 31st December, 1840, 8 <i>l.</i> 2 <i>s.</i> 7 <i>d.</i> . . . . . | 14 15 3    |
|  |          | Balance in Secretary's hands, 31st December, 1841 . . . . .   | 1 0 7      |
|  |          |   | 130 0 0    |
|  |          | Total Disbursements 1841 . . . . .  | £364 18 0  |
|  |          | Balance in hand, 31st December, 1841 . . . . .  | 385 16 8   |
|  |          |   | £1350 14 8 |

STATEMENT No. 2.

ESTIMATE of RECEIPTS and DISBURSEMENTS for the Year 1842.

| ESTIMATED RECEIPT.   |            | ESTIMATED EXPENDITURE.  |            |
|--|------------|---|------------|
| £.   | s. d.      | £.  | s. d.      |
| 118 Subscriptions of Resident Mem-<br>bers, at £3 3s. each | 371 14 0   | House Rent, one Year  | 220 5 0    |
| 61 ditto, ditto, at £2 2s.                                 | 128 2 0    | Rates and Taxes   | 43 0 0     |
| 8 ditto, Non-Resident ditto, £2 2s.                        | 16 16 0    | Salaries of Assistant Secretary, Clerk,<br>and Porter                                     | 225 0 0    |
| Arrears of Subscription due, 31st<br>December, 1841        | 40 0 0     | Printer's Bill for Journal, No. XIII.   | £488 5 0   |
| Admission Fees of New Members                              | £556 12 0  | Stationery, Collector's Poundage,<br>Coals, Bookbinding, Periodicals,<br>and Miscellanies | 200 0 0    |
| Compositions of Subscription                               | 63 0 0     | Housekeeper's Wages and Account   | 90 0 0     |
| Annual Donation of East India Com-<br>pany                 | 105 0 0    | Postage and Carriage  | 80 0 0     |
| Dividends on 3 per cent Consols                            | 105 0 0    | Sundry Small Bills  | 18 0 0     |
| Sale of Publications                                       | 58 5 8     |   | 40 0 0     |
|  | 30 0 0     |   |            |
|  | 193 5 8    |   | 138 0 0    |
| Total estimated Receipt                                    | £917 17 8  | Total estimated Expenditure   | £916 5 0   |
| In hand, 31st December, 1841                               | 385 16 8   | Estimated Balance at end of 1842  | 387 9 4    |
|  | £1303 14 4 |   | £1303 14 4 |

**COLONEL BARNEWALL** moved "That the Reports of the Council and Auditors, which have just been read, be received and printed."

The motion was seconded by **H. S. GRÆME, Esq.**, and carried unanimously.

The **CHAIRMAN** rose to state, that, as the melancholy demise of our late President, which had been adverted to in the Report they had just heard, had, he was sure, been felt and lamented by every Member of the Society, it would, no doubt, be deemed proper that some expression of the feelings which the Society collectively entertained of his merits, as a patron and cultivator of Oriental literature, should be placed on their minutes. With this view, he would, with their permission, submit the following Resolution:—"That this Meeting, deeply regretting the loss which has been sustained by the death of the late President, the Earl of Munster, feel it incumbent upon them to testify their admiration of His Lordship's zeal and perseverance in the pursuit of those objects which the Royal Asiatic Society is established to promote; and also to record their grateful remembrance of the uniform kindness and courtesy which marked His Lordship's intercourse with the Society; and of his readiness at all times to co-operate in any measures tending to promote its credit and purposes."

The proposed Resolution was unanimously adopted.

The Right Hon. Sir **ALEXANDER JOHNSTON** rose to propose the election of a new President. He said, that, in consequence of the melancholy event, regarding which the Meeting had just resolved to record the expression of their feelings, it had become necessary for the Council to consider what person was best qualified to succeed the Earl of Munster as President of the Society; that the Council, having carefully deliberated on the subject, are of opinion that no one could be so well qualified for the office as a person of influence connected with the Government, who felt, that in furthering the views of the Society, he was promoting the objects of good government; and that, by becoming personally acquainted with the Members of the Society, he was facilitating the means of acquiring that information which must be useful to him in performing the duties of his public office: and that they were further of opinion, that they ought to select a person who, in addition to the inclination, had also the means of furthering the interests of the Society, not only in his individual, but in his official capacity; and who would identify the interests of the Society with those of the Government of the country, by showing the Government that the information which the Members of this Society could afford him, would assist them in carrying into effect such measures as are likely to increase the prosperity of the natives of British India, by being practically applicable to their local situation; that for these reasons, the Council felt that no one was more likely to attain the objects of the Society as their President than the present President of the Board of Control, Lord Fitzgerald,—who,

from his experience of public affairs, must feel that the best way of gaining information respecting British India is, to become personally acquainted with the Members of this Society, many of whom have been long officially employed in the country with which his official situation so closely connects him; and who must, from his station, have the power of effectually aiding the Society as well in Great Britain as in British India: that the Council had, in consequence, sent a deputation to Lord Fitzgerald, to ascertain how far the proposed nomination would be acceptable to him: that his reply was, that he should feel proud if the Society elected him their President; and that he should consider it a pleasure to perform, as far as he could, the duties that might be required of him. Sir Alexander then proposed Lord Fitzgerald as President, and added, that he thought that the Society might look forward with the best hopes to their future success, because they would have for Patron the Queen of Great Britain; for Vice-Patron, the Consort of Her Majesty; for President, should the Meeting agree to his motion, the President of the Board of Control; for their Director, one of the most learned Oriental scholars in Europe, of whose distinguished merits the Court of Directors, and the University of Oxford, had shown their sense by the confidential employments which they had entrusted to him; for their several officers, individuals who were thoroughly acquainted with the wants and resources of British India; and for their Members, many persons who have belonged to the different branches of the East India Company's service, which, from long experience, has proved itself to be one of the most distinguished services in ancient or modern times.

Sir GEORGE STAUNTON had much pleasure in seconding the motion. He had not the honour of an intimate acquaintance with Lord Fitzgerald, but, knowing his estimable qualities in general society, and considering his high public station, and his present official connexion with Indian affairs, he had no hesitation in recommending His Lordship to the Society as a successor to their late lamented President, Lord Munster. It was true, that he was not an Oriental scholar, nor was he personally acquainted with the East, but the want of such qualifications in the President could not be felt by the Society, while their Oriental labours were superintended and directed by the eminent scholar, who now so worthily fills the Chair of our illustrious Founder, Mr. Colebrooke. In fact, our Society is by no means exclusively Oriental in its constitution; some of its most valuable Members have had no personal connexion with the East, but have joined us solely from an enlightened view of the public utility of such an institution, and its intimate connexion with the general interests of literature and science. Amongst this class of our Members, Lord Fitzgerald stands conspicuous; and Sir George felt persuaded, that His Lordship, if elected to the office of our President, would feel it a grateful part of his duty to promote, to the utmost of his power, the object for which we were instituted, to develop our resources, and, in short, to place the Royal Asiatic Society in the high



position amongst the learned institutions of this country, to which it is so well entitled.

The CHAIRMAN observed, that after the full and able manner in which the proposition now before the Meeting had been made and seconded, it was unnecessary for him, in taking their sense upon the motion, to add more than to bear his testimony, as one of the deputation who had waited upon Lord Fitzgerald, to the kind manner in which his Lordship had received them, and the interest he evinced in the advancement of the Society's views; and he begged to express the full conviction of his mind that the Society could not select a better President. He presumed it would be the pleasure of the Society in this case not to ballot, but to proceed at once to a show of hands.

No objection being made, a show of hands was taken, when the election of Lord Fitzgerald and Vescei to be the President of the Society was declared to be carried unanimously.

It was moved by N. BLAND, Esq., and Resolved, that the thanks of the Meeting be voted to the Auditors for the attention they had given to the finances of the Society, and for their Report thereon.

Major OLIPHANT, in an appropriate speech, moved a vote of thanks to the Council for their services during the past year, well-merited, as he observed, by their active attention to the affairs of the Society, by the control they exercised over its expenditure, and by their care in selecting a President so likely to promote its interests.

This motion was seconded by Major WILLOCK, and carried unanimously.

In acknowledging this vote, the DIRECTOR, in the name of the Council, assured the Meeting that the support they had always received from the Society generally, had proved the best incentive to render them assiduous and constant in the discharge of the duties which their office imposed upon them.

WILLIAM NEWNHAM, Esq. said it was unnecessary for him to preface the motion he had to make by a eulogium on one whose merits were so well known, and whose valuable services had been acknowledged already in much better terms than he was able to employ for the purpose. He begged to propose a vote of thanks to the learned Director.

The motion was seconded by H. S. GRÆME, Esq., and carried unanimously.

The DIRECTOR stated that it was quite impossible adequately to acknowledge the many very kind expressions in which his services had been spoken of by the partiality of his friends, or the manner in which those expressions had been received by the Meeting. He had always professed himself most anxious to promote the objects of the Society, by giving such attention at the meetings as he could bestow, and taking such part in their

proceedings as his other avocations allowed. His tastes and duties were identified with the purposes of the Society, and his occupations, although not addressed to the immediate objects of the Society as much as he could wish, yet were necessarily of a character and tendency intimately connected with the promotion of those studies which it was the especial end of the Society to encourage and extend, and he hoped would be attended with neither disadvantage nor discredit to the Society. With respect to the discharge of his duties as Director, he considered them as in a great measure restricted to what was literary and Oriental, for as far as the general concern and prosperity of the Society were affected, the zeal and judgment of his colleagues in the Council, and the effective co-operation of the Vice-Presidents and Honorary Secretary, left his own station little else than a sinecure. He did not, however, therefore mean to exonerate himself from any responsibility which might be thought to devolve upon him, but should always be ready to admit it, and should endeavour to acquit himself of it as well as his abilities and opportunities would permit.

LOUIS HAYES PETIT, Esq., moved a vote of thanks to the Vice-Presidents of the Society, which was carried unanimously.

The Right Hon. Sir ALEXANDER JOHNSTON, for the Vice-Presidents, rose to acknowledge the vote now passed. He said that whatever interest had hitherto been felt for British India, was much increased at the present moment, owing to its being obvious that this immense empire, the largest ever known, was at present in a crisis of the greatest importance.

J. L. GUILLEMARD, Esq., proposed a vote of thanks to the Honorary Secretary, which having been passed unanimously,

The HONORARY SECRETARY expressed his thanks for the indulgent kindness with which his name had been received. Feeling, as he did, the great value of such an institution as the Royal Asiatic Society, and its capability of usefulness if its powers and resources should be fully developed, he sincerely regretted the insufficiency of the qualifications he possessed, and of the time he could bestow, to work out such desirable results. Such, however, as his services were, he could sincerely assure them they were most willingly rendered, where they were so favourably received; and he considered it a high honour to be placed by the Society in the distinguished office which they allowed him to fill.

THOMAS NEWNHAM, Esq., moved that the thanks of the Society should be voted to the Treasurer, to whom he wished that increased funds might give increasing employment.

The motion was carried unanimously.

CHARLES ELLIOTT, Esq., thanking the Society for their kindness, said he cordially joined his friend Mr. Newnham in his wishes for an increase to the funds of the Society. He not only wished that those who had spent the best part of their lives in the East would interest themselves in the

success of the Royal Asiatic Society, but that they would use their best exertions to lead others in the same way in which they were proceeding themselves, and by the application of a powerful stimulus, overcome the apathy of many, and induce them to aid in the promotion of an increased acquaintance with the manners, habits, and literature of nations so unlike our own.

**W. E. FREEE, Esq.**, moved a vote of thanks to the Librarian of the Society, which was carried unanimously.

**JOHN SHAKESPEAR, Esq.**, returned thanks.

**Colonel SYKES** and **WILLIAM NEWNHAM, Esq.**, having been nominated Scrutineers, the Meeting proceeded to ballot for the new Members of Council, and for the Officers of the Society.

At the close of the Ballot, the Director, Vice-Presidents, Treasurer, Librarian, and Secretary, were declared re-elected; and the following gentlemen were declared elected into the Council in place of those retiring by rotation;—

The Hon. **W. H. Leslie Melville**; **Sir Thomas E. Colebrooke, Bart., M.P.**; the Very Reverend the Dean of Salisbury; **Samuel Ball, Esq.**; **Major-General J. Caulfield, C.B.**; **Captain W. J. Eastwick**; **John L. Guillemard, Esq.**; **Lieutenant-Colonel W. Martin Leake.**

On the Director leaving the Chair, the **Rev. T. ROBINSON** moved that the thanks of the Meeting should be voted to him for his conduct while presiding on the present occasion. He took occasion to congratulate the Society on its possessing for the Director of its literary labours the first Oriental scholar in Europe; and he expressed his confidence that, under such auspices, the Society could not but sustain its high and well-earned character.

The motion was seconded, and carried unanimously.

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# **DONATIONS.**



# ROYAL ASIATIC SOCIETY.

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## PROCEEDINGS

OF THE

TWENTIETH ANNIVERSARY MEETING OF THE SOCIETY,

HELD ON THE 10TH OF JUNE, 1843,

THE RIGHT HON. SIR A. JOHNSTON,

VICE-PRESIDENT,

IN THE CHAIR.

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THE CHAIRMAN opened the business of the day by informing the Meeting that the Director, who would have taken the Chair on the present occasion, was unavoidably absent upon his official duties at Oxford. He would therefore call upon the Secretary to read the Reports.

THE HONORARY SECRETARY read the Report of the Council and Auditors; and those of the Oriental Translation Committee, and Oriental Text Committee, as follow:—

It has again become the painful duty of the Council to begin their Annual Report by lamenting the death of the President of this Society. One year only has elapsed since the LORD FITZGERALD AND VESCI, unanimously elected to fill the chair, accepted that office with the greatest kindness and courtesy, and expressed the deep interest he felt in the objects for which the Society is embodied.

That his Lordship should not have been able to give his attendance at the Meetings of the Society more than once during the period of his Presidency will excite no surprise when we advert to the incessant labours and intense fatigue which must have attended the important office he held, in a year of more than ordinary pressure on the Indian Statesman. It cannot, indeed, but be feared that to the bodily and mental exertions which Lord Fitzgerald thus endured may be mainly attributed the loss which the country has sustained of an able, upright, and zealous Minister, and the vacancy which we this day deplore in the chair of our President. It will be for the present Meeting to adopt such measures to supply that vacancy, as to them may appear most advisable.

The Society has to lament the death of two of the Vice-Patrons. In His Royal Highness the DUKE OF SUSSEX, learning and science have lost an  
1843.]

illustrious pupil, and a zealous friend. Though His Royal Highness had not devoted his talents to the study of Oriental languages, he honoured this Society by the most gracious acceptance of the office he held ; and the recollection of many Members will bring to their minds the kindness with which he presided at one of the Annual Meetings, and the interest he exhibited in its proceedings. His Royal Highness was also a Subscriber to the Oriental Translation Fund.

The other Vice-Patron whom the Society laments is that illustrious Governor-General of India, that accomplished statesman and gifted scholar, the **MARQUIS WELLESLEY**. Under no administration of our Indian affairs was so much done for the encouragement of Oriental learning among the servants of the State, or for its general diffusion by the publication of valuable works, as during the rule of that great man. The scheme of the Calcutta College was conceived in wisdom, admirably calculated to awaken the energies of the young servants of the Company who were to diffuse the blessings of British rule over the vast and populous provinces of Hindostan, and to imbue their minds with sound and extensive knowledge, as well in the languages of the people they were to govern, as in the laws they were called to administer. An assemblage of the ablest professors and teachers in every branch of instruction that was to be imparted, gave life and energy to the system. The names of Colebrooke, Gladwin, Harington, Gilchrist, Edmonstone, Baillie, Lockett, Lumsden, Hunter, Buchanan, Carey, and Barlow, all of whom, in various branches of tuition, discharged the duties of professors, will vouch to those who have not traced the operations of the College in its printed Reports, the excellence of the instruction imparted, and the advantages enjoyed by the Students in that noble establishment, which, notwithstanding it has ceased to exist, yet continues its beneficial influence, by the many standard works of Eastern literature and education which issued formerly under its patronage from the press, and by the important services still rendered by several distinguished public officers who had been trained within its walls.

The fame of the Marquis Wellesley is too firmly established, and too widely spread, to need any other tributes from this Society than that of high admiration for his enlightened encouragement of learning and education in India, and of deep regret that they have lost such a patron.

The number of retirements in the past year was six\*, besides which the names of two † gentlemen have been removed from the list, in conformity with the provisions of Rule LIII.; and we have lost by death ten ‡ Contributing Members, and five § Honorary Members.

\* Sir Simon Heward, John Edye, Esq., Right Hon. J. A. S. Mackenzie, G. W. Traill, Esq., A. J. Valpy, Esq., J. M. Heath, Esq.

† E. R. Power, Esq., F. C. Brown, Esq.

‡ The Rev. R. Anderson, Gen. the Hon. Sir G. Lowry Cole, G.C.B., Captain John Hme, Hormanjee Bhiccajee, Lieut.-Col. W. G. Patrickson, Henry Harpur Spry, Esq., M.D., Lieut.-Gen. St. George Ashe, Henry Iveson, Esq., W. Jardine, Esq., M.P., Rev. S. Clayton.

§ Sir William Ouseley, LL.D., Professor W. Gesenius, Rev. J. A. Gonalves, Lieut. Arthur Conolly, Coena Koroal.



The total loss experienced by the Society from the various causes above-mentioned is twenty-three.

The number of elections is eleven Contributing\* and two Honorary Members†, and the absolute diminution in the number of Members is therefore ten.

The name of the Rev. ROBERT ANDERSON has been chiefly known during the last twenty years in association with his zealous, able, and affectionate labours as an exemplary clergyman of the Church of England, and as the author of various instructive and pious works in Christian Theology. But his memory claims from this Society a tribute of gratitude and regard for his varied attainments in Oriental learning, and his successful endeavour to remove some of the impediments to the acquirement of the Tamil language. The earlier years of Mr. Anderson's public life were passed in the Civil Service of the East India Company, on their Madras Establishment. The diligence and vigour with which he applied to the preparatory studies at the East India College were rewarded by medals for Sanskrit, Classics, History, and Political Economy; and by prizes for Persian and Bengali, and for Mathematics, Law, and Theology.

The same energy and talent ranked him as a distinguished student in the vernacular languages which the Junior Civil Servants are required to master in India, before entering on the discharge of official duties; and the appointments which he afterwards held were such as proved the confidence of the Government in his ability and judgment, and their appreciation of his talents for public business; but ill health compelled him to return to England in the ninth year of his service. Shortly after his arrival he was appointed one of the Assistant Professors at the East India College at Haileybury, where he was remarkable not only for the efficient discharge of his duties as an instructor, but for the influence which his affectionate suavity of disposition, united with his high moral tone and gentlemanly bearing, gave him over the students at that important seminary.

Not limiting himself, however, to the strict line of the duty with which he was charged, which engaged him only to give instruction in Persian, he devoted part of his time to communicate to a few voluntary students the elements of Tamil, the language spoken by the inhabitants of the eastern side of the Indian Peninsula, from districts north of Madras, to the southern promontory of Comorin; and as the only printed grammar of the language at that time extant was a bad translation of Beschi's Latin Grammar of the ordinary dialect, and even that was rarely to be met with in England, he prepared and published in 1821, his *Rudiments of Tamil Grammar*.

The Tamil language, founded on primitives wholly distinct from the Sanskrit, (which in the Tamil provinces is denominated the northern

\* David Solomons, Esq., Sir Thomas Baring, Bart., Right Hon. Lord Viscount Jocelyn, M.P., Major Richard Wilbraham, J. Macpherson Macleod, Esq., Hon. W. Bingham Baring, M.P., G. E. Russell, Esq., John Muir, Esq., Timothy Tyrell, Esq., Capt. Thomas Postans, Patrick Scott, Esq.

† His Highness the Raja of Travancore, His Majesty the King of Prussia.

tongue,) has received a very peculiar and highly wrought organization and polish. This refinement of the language is attributed to the labours of a college of learned men established at Madura, while under the rule of the Pándya Sovereigns, perhaps about the ninth century of our era.

The peculiar and complex system of syllabic combination which characterizes the Shen, or pure Tamil, had chiefly in view the harmony of its versification; and the numerous forms of its verbal and nominal derivatives, supplying among their other uses the absence of the relative, with the frequent omission of the personal pronouns, have, all together, the effect of imparting to its compositions, a brevity unequalled in any other language, productive, however, of obscurity as well as of strength.

A general conformity to the same rigid system is required in classical prose, and thus, while the reading of Tamil poetry is not accomplished even by well informed natives, without a degree of study that prevents it from becoming popular, the commentary written in prose is often nearly as difficult as the rhythmical text.

The colloquial dialect frequently neglected the application of the rigid rules of the syllabic combination, and adopted only a few of the many forms of inflection presented to the choice. The simple words of the pure Tamil were frequently superseded by terms derived from many languages which communications with stranger tribes gradually introduced—and the common vocabulary was enlarged by the introduction of many Sanskrit words requisite to express ideas, especially of philosophy and science, not known to the earlier stages of the aboriginal society. Hence, there seemed to grow up two systems both of words and of grammatical modification—though the latter was never recognised by native writers as deserving of a separate study. They acknowledged only one system of grammar as a science, and considered compositions as correct only in so far as they approached to the standard of the orthographical and grammatical requisitions of the Shen or pure Tamil.

The idea of dealing with the more colloquial forms as a separate dialect or system, under the denomination of “codun,” that is, rough, or coarse Tamil, seems first to have occurred to the Jesuit missionaries who settled in Madura, the seat of Tamil learning, about the beginning of the eighteenth century; and one deeply learned and indefatigable scholar, Father Beschi, wrote a separate grammar of the colloquial language, constructed on the plan, and explained by the terms of the Latin Grammar. He also composed a grammar of the Shen or pure Tamil, in which, though he still adhered to the divisions of the subject familiar to European students, he exhibited the views of the Tamil grammarians, and gave the technical terms and arrangements of their systems. In this grammar he included a short treatise of prosody and versification. In a third work, entitled *Clavis humaniorum litterarum sublimioris Tamulici idiomatis*, he treated these subjects not only at greater length, but with more enlarged reference to the system of native grammarians, and added a chapter on the figures used by Tamil poets.

Whatever may be thought of the advantage likely to accrue to a European student by modelling the elementary instruction he is to receive

in any Asiatic language on the system of European grammar which does not possess many of the elements to be imparted, and which is only known to his native instructors as the contrivance of foreigners, Mr. Anderson felt the importance of at least combining instruction in the elementary forms in common use, with those which any native pretending to a chaste style would use; and also of early familiarising the scholar with the grammatical terms in which his Indian teacher would convey instruction to his own countrymen, and in which alone he could impart it effectually to his European scholars. This task Mr. Anderson accomplished with much success in his *Rudiments of Tamil Grammar*, a work deserving of the higher commendation, as it was performed without the means of reference to native scholars, and with no other assistance than the materials which have been above referred to—and he has thus opened the way to the study of a language at once ancient, singular in structure, and possessing a considerable body of original literature, much of it of a pure and high morality.

While recording the service thus rendered to Oriental literature by the lamented Anderson, we may be allowed to notice the kindred labours of his early associate and coadjutor, Dr. B. G. Babington, who, in furtherance of the object which his friend had in view, printed in 1822 a tale composed in pure Tamil prose, by Beschi, entitled the *Adventures of the Gooroo Parasartan*, adding to it a literal translation into English, and a grammatical analysis referring to the rules in Mr. Anderson's grammar. These two works, if thoroughly mastered, would accomplish the end proposed by the author of the first, of enabling such of the students at Haileybury as were destined for the Presidency of Madras to acquire an elementary knowledge of one of the most important languages of Southern India. The cause of Indian literature has to regret that Dr. Babington was, like his early friend, compelled by illness to relinquish the Civil Service of the East India Company after a short but honourable career; but he did not quit it before he had given to the world a translation into English of the grammar of the Shen Tamil, written in Latin by the learned Beschi.

ALEXANDER CSOMA KÖRÖSI, is one of the most singular characters in the annals of Asiatic travel. The first volume of the *Journal of the Society* contains an autobiographical sketch of his early career, furnished by him to Captain Kennedy\*, assistant political agent at Subáthu, which offers, in simple language, a remarkable picture of lofty enterprise, patient endurance, and calm, but deep-seated enthusiasm.

Mr. Csoma was a native of Transylvania; and born at the village of Körös, as his designation, Körösi, imports. He was educated for the Church at the Bethlem College, of Novo Enyed; and prosecuted his studies also at Göttingen and Temeswar. Addicting himself especially to the cultivation of philology, geography, and history, his attention was drawn to

\* Captain Kennedy was assistant to Charles Elliott, Esq., at that time agent to the Governor-General at Delhi, and now treasurer of the Royal Asiatic Society. It was by Mr. Elliott that the Government were first apprized of the arrival and intentions of Mr. Csoma; and it is to that gentleman that the Society were indebted for the communication above referred to, as published in the First Volume of the *Journal*.

the languages of the Slavonic tribes, and to those of the East; and he determined to travel to the latter countries, where, to use his own expressions, "procuring subsistence by some means or other, he should devote his whole life to researches which might afterwards be useful to the learned world of Europe, and, in particular, might illustrate some obscure facts in ancient history." His immediate objects are more especially defined in the preface to his Tibetan Dictionary to have been the origin and language of the Hungarians, whose primitive seat he expected to discover in the heart of Central Asia.

With this view, without imparting his intentions to any one, without money or friends, Mr. Csoma set out on foot from Temeswar; and on the last day of November, 1819, commenced that journey which was to terminate with his life amongst the mountains of Butan.

Deterred by the prevalence of the plague from going direct to Constantinople, as he had at first intended, Mr. Csoma proceeded through part of Greece, to the *Ægean* Sea, and thence to Egypt. The same danger barred his journey to Cairo; and he turned off to Syria. At Aleppo he found friends who facilitated his journey to Bagdad; and at that city other assistance enabled him to travel to Tehran, where, in October, 1820, he arrived, having been a year on his route. At Tehran, the hospitality of Sir Henry Willock afforded Mr. Csoma a home for some time, as well as an opportunity of acquiring a knowledge of the Persian language, and the means of resuming his journey under favourable auspices. He travelled in caravans, and on foot; and in a very humble character. He usually wore the dress of a native; but on leaving Tehran, in March, 1821, he assumed the garb of an Armenian,—a race which, although belonging to the Christian community, has earned by its services to trade, the privilege of traversing most of the Mohammedan States of Asia without molestation.

From Tehran, Mr. Csoma travelled with different kafilas to Meshed, and thence across the desert, by Merv, to Bokhara. From Bokhara he proceeded by way of Balkh and Khulm to Kabul. His stay there was short; and after a few days, he resumed his route towards Peshawar, where he found the two French officers of Ranjit Singh, Generals Allard and Ventura, and accompanied them to Lahore. By their kindness he obtained permission and assistance for a journey to Kashmir, where he arrived in April, 1822. Thence with four companions only, he set out for Little Tibet, and reached Lé, the capital of Ladakh, with an intention of going on to Yarkand. Finding that the road was both difficult and unsafe, he turned back, and was on his way to Kashmir again, when, on the 16th July, 1822, he fell in with Mr. Moorcroft, in the district of Dras. From this time, till Mr. Moorcroft's departure from Ladakh, Mr. Csoma remained with him, and at his suggestion entered upon the study of the Tibetan language. Being deeply interested in this inquiry, he continued, with a view to its further prosecution, in Ladakh, after Mr. Moorcroft had left it; and through his aid and influence, was placed under the instructions of a learned lama, in a monastery at Yangla, in the province of Zanskár, where, wholly excluded from all communication with the European world, he resided from June, 1823, to October, 1824, diligently

engaged in making himself acquainted with the language and literature of Tibet.

Towards the close of 1824, Mr. Csoma, having arranged with his preceptor to pass the winter with him at Kulu, proceeded thither; but the lama being prevented from joining him, he continued his journey to the Company's territories, and arrived at Subáthu in 1825. Although it appears from his statement that some communications respecting him had been addressed by Mr. Moorcroft to the Asiatic Society at Calcutta, yet it does not seem that they were received; and the appearance of a European traveller, in so remote a region, and from so unusual a quarter, excited some doubts as to his real character, and he was suspected of being an emissary of Russia. He was accordingly called upon to give an account of himself; and his reply is the notice which has been printed in our *Journal*\*. The report was considered satisfactory; his application to remain for three years longer in the hills was acceded to; and his offer to prepare a grammar and dictionary of Tibetan, to be placed at the disposal of the Government, readily accepted. An allowance of fifty rupees a month was granted to him, and the Asiatic Society of Bengal proposed to make him a similar grant. Such, however, were the moderate habits, and disinterested sentiments of Mr. Csoma, that although he did not decline the proffered assistance, he refrained from availing himself of the Society's liberality.

A longer period than that which he had specified was found necessary by Mr. Csoma to complete the materials of his intended publications; and it was not until the end of 1830 that he quitted the mountains for Calcutta. During this interval he carried on his Tibetan studies under circumstances of peculiar privation and discomfort, from the nature of the country and the climate, at a Buddhist monastery at Kanum, in Kunawar, with the assistance of his original preceptor, the lama, whose somewhat unpronounceable name he has preserved in the title-page of his *Tibetan Dictionary*.

When Mr. Csoma arrived in Calcutta, he brought with him the materials of his *Grammar and Dictionary*, and a number of *Tibetan Manuscripts*. He was immediately elected a member of the Asiatic Society, and placed, in an especial manner, in communication with their Secretary. Although gratified by the kindness of which he was the object, Mr. Csoma perseveringly declined the attentions of the community of Calcutta. Retaining the habits of an early and assiduous student, confirmed by the sequestered life which he had led amidst the snows and solitudes of Zanskar and Kunawar, he dedicated the whole of his time to literary labour; and except at the meetings of the Asiatic Society, was never seen abroad. His mode of living was also exceedingly abstemious; dry bread and tea constituting the greater part, if not the whole, of his daily fare. His hours were fully occupied, as, in addition to the continuance of his philological elucidations of the Tibetan language, he furnished the Society with elaborate analyses of the contents of the two great Tibetan works, the *Kah-gyur*, and the *Stan-gyur*, comprising 300 large volumes, with which the generosity of Mr. Hodgson, the Resident in Nepál, had enriched the Society's library.

\* Vol. I., p. 126.

Mr. Csoma also engaged with characteristic ardour and assiduity in the study of Sanskrit; and has recorded his opinion, derived from his own experience, that the study will be more satisfactory to his countrymen than to any other nation of Europe, as the Hungarians will find in it a fund of information respecting their origin, manners, customs and language, since the structure of the Sanskrit offers more striking analogies to the Hungarian than to any other European tongue.

In the beginning of 1834, the Dictionary of the Tibetan language, compiled by Mr. Csoma, was published at the expense of the Bengal Government. It contains about 30,000 words, arranged alphabetically, the meanings of which are explained in English. A Dictionary of the Bhotanta, meaning a dialect of the Thibetan, by a German missionary of the name of Schroeter, had been published at Serampore in 1826; but it was a posthumous work; and even if it had been compiled with competent knowledge and care, would have suffered from the want of the author's final revision. The Dictionary of Mr. Csoma may therefore be regarded as the first, and up to the present day, as the only Dictionary of the Tibetan language.

The close of the same year, or December, 1834, witnessed the fulfilment of Mr. Csoma's promises, in the publication, under the same patronage, of his Tibetan Grammar. This is also explained in English; and is a work of much labour and perspicuity. A Grammar, by Professor Schmidt, of St. Petersburg, has been since published on the Continent; but Mr. Csoma's has the merit of priority, and is the only one that exists in English. Besides the grammatical portion, the volume contains an Appendix, in which various interesting articles illustrative of the literature, morals, chronology, and history of Tibet are inserted.

Mr. Csoma was an active contributor to the Journal of the Asiatic Society of Bengal. From the materials which he furnished, notices regarding the two great works, compiled by the Secretary, were published in the early volumes; but he soon supplied contributions direct, the principal of which are the following:—

- Geographical Notice of Tibet, from Original Authorities. April, 1832.
- Translation of a Tibetan Fragment. July, 1832.
- Origin of the Kála Chakra and Adi Buddha Systems. July, 1833.
- Translation of a Tibetan Passport, in Hyde's *Religio Veterum Persarum*. April, 1833.
- Origin of the Shákya Race. August, 1833.
- Analysis of a Tibetan Medical Work. January, 1835.
- Observations on Buddhism. February, 1838.

The 20th Volume of the Asiatic Researches also contains a more detailed series of the Analyses of the Kah-gyur and Stan-gyur.

Mr. Csoma resided in Calcutta for above ten years; and during the latter part of that period acted as Librarian of the Asiatic Society. He had, however, always proposed to resume his travels with a view to penetrate to Lassa, or even into China, whenever a favourable opportunity should occur; and in 1841 he set off in execution of this design. He arrived, at

the end of that year, or early in 1842, at Darjeeling, in the Sikim country; and arrangements, which wore the appearance of a favourable termination, were in progress for his passing through the territories of the Sikim Raja into Tibet, when he was taken ill of fever, which proved fatal in a few days. An interesting account of his last moments, communicated by Mr. Campbell, the Superintendent, to Government, is published in the Journal of the Asiatic Society of Bengal for April, 1842. The ruling passion was strong in death; and his last thoughts were occupied with the enviable position which he should attain by arriving at Lassa, and with speculations on the origin of the Hungarians from the Yugars, a people of whom he expected to discover vestiges to the east and north of the capital of Buddhism, on the confines of China. His sense of the treatment he had experienced from the Asiatic Society was strikingly displayed in his bequest to it of 5000 rupees, which he had contrived, out of his very limited income, to realise.

The death of Mr. Csoma has disappointed the sanguine hopes in which it was allowable, from his acquirements and character, to indulge, that his successful journey would have added much valuable and interesting matter to our very imperfect knowledge of the geography, history, literature, and religion of Tibet.

Captain ARTHUR CONOLLY was distinguished as an enterprising and intelligent traveller, and as one of those to whom we are especially indebted for accurate and valuable information respecting the countries between Persia and Hindostan. He was born in 1807; and after receiving his education at Rugby and at Addiscombe, proceeded, in 1823, at the age of sixteen, to India as a cavalry cadet. In consequence of suffering from the effects of the climate, he was under the necessity of returning to England, after a service in India of a few years. When the period of his leave expired, in August, 1829, he determined to go back to India overland, through Russia and Persia. The result of this journey was communicated to the public (in 1833), and a second edition of Captain Conolly's Travels was published in 1838.

It was Captain Conolly's design to have diverged from his route after leaving Tehran, and to have visited Khiva and Bokhara. He was disappointed in the accomplishment of this purpose by the dangers which he encountered from the Turkman tribes inhabiting the deserts on the east of the Caspian. His attempt was, however, not wholly in vain; and he penetrated, by a route previously untrodden by Europeans, far enough to collect novel and useful information regarding the south-western portion of the Turkman desert, and the condition and manners of the tribes by whom it is occupied.

Returning by the more direct line of communication, Captain Conolly visited Nishapur and Meshed; and, with the assistance of a courageous and faithful companion, Syed Karamat Ali, a Persian gentleman of unusual abilities, learning, and liberality, safely visited the interior of the sacred shrine of Imam Reza at that city, and was present at the Shiah festival of

the Moharram, when the feelings of the people are excited almost to frenzy, and the unbidden presence of an unbeliever would have been expiated only by his death, or his profession of the Mohammedan creed. Captain Conolly, however, escaped detection, and has given an interesting account of the scenes that he witnessed.

From Meshed Captain Conolly travelled to Herat, of which place he has furnished many important details, and thence proceeded to Shikarpore, through places which were at that time but little known, but which have recently acquired a melancholy notoriety,—the Pisheen Valley, Quetta, the Bolan Pass, and Bagh. Hence he crossed the Indian Desert to the British frontier station of Hisar, which he reached on the 18th of January, 1831. To the second edition of Captain Conolly's Journey is appended a succinct but perspicuous history of the Affghans, and some sensible observations on the overland invasion of India.

The same cause which compelled Captain Conolly's former return to England, induced him to avail himself of the privilege of furlough, when entitled to it; and he again visited this country in 1837. The political events which were then beginning to occur gave new importance to the countries which he had traversed, and he was accordingly applied to by persons in authority for information and advice. Warmly interested in the welfare of the nations of Central Asia, and anxious to extend and improve our intercourse with them, Captain Conolly not only imparted readily the results of his observations, but expressed his willingness to repair to Afghanistan, and thence to explore the regions further to the east, which have been for so long a time inaccessible to the nations of Europe, with exception of Russia. With permission to effect this object, if it should appear to the Indian Government to be expedient, Captain Conolly again set off on his travels in the beginning of 1839, proceeding by way of Constantinople and Asia Minor to Tehran and Herat, and thence to Kabul. On his way through Asia Minor, he collected some valuable information regarding the wool of Angora, and the trade carried on with the Turkish provinces on the southern coast of the Black Sea, which is published in the sixth volume of the Journal of this Society. At Kabul he found a connexion and friend in the late Sir William Macnaghten; and was employed by him on political duties. After some little time, he was deputed by the government of India to Kokan, to effect the liberation of some Russian captives detained there, and fulfil the desire he had so much at heart of extending our acquaintance with the countries and tribes of Turkestan. No particulars of his journey have been published: it is not known whether any details exist. From private information, however, it has been ascertained that Captain Conolly reached Kokan without difficulty, and was received there with the utmost possible distinction. He remained there between two and three months, during which time he experienced uniform kindness and consideration; and his departure was accompanied by expressions of cordiality and regard. His return would probably have been effected with the same security as his journey; but unfortunately for himself, he received on his road a letter in Persian from Colonel Stoddart, informing him that the Ameer of Bokhara



was very desirous to see him ; and that his visit to Bokhara would probably be attended with beneficial consequences, and would obtain for Colonel Stoddart permission to depart from a city in which he had been some time unwillingly detained. Captain Conolly acceded to the suggestion, and directed his course to Bokhara, where he was at first received with civility, and admitted, on various occasions, to a conference with the Ameer. Whilst thus engaged, news of the disasters at Kabul arrived ; and the tone of the authorities at Bokhara was immediately changed. Stoddart and Conolly were put into close confinement ; and liberation was offered solely on the condition of their becoming proselytes to the faith of Mohammed. The alternative was death. There is too much reason to believe that the sentence was inflicted. Accounts received, by way of Kabul, ascribed Conolly's decease to fever ; but others, transmitted through Colonel Shiel at Tehran, of the authenticity of which little doubt can be ascertained, affirm that Conolly was, with his companion, beheaded in the market-place of Bokhara, by order of the Ameer, in resentment of the firmness with which he had withstood both menaces and entreaties to profess even an outward conformity to the Mohammedan religion ; the ruler of Bokhara thus cruelly and insolently violating the laws of humanity, and the usages of civilized nations, and setting at defiance the power and indignation of the British Government of India.

The late Sir WILLIAM OUSELEY, the eldest son of Ralph Ouseley, Esq., was born in October, 1766, and after completing an excellent classical education, entered the military service at an early age. His marriage with Julia Frances, the daughter of Colonel Irving, induced him soon after that event to retire from the army altogether, with the rank of major of cavalry.

It was during the period of his being a Cornet and Lieutenant of Dragoons that he first shewed a strong passion for Oriental Literature, in the acquirement of which he was encouraged and assisted by the correspondence he maintained with his younger brother (now the Right Hon. Sir Gore Ouseley, Bart. and G.C.H.), then studying the Persian and other Eastern languages in India.

Sir William, with no assistance from other books, was enabled to translate several Persian works ; and he published an English version of a short History of Persia, entitled *Jehan Numa*, which evinced an accurate comprehension of his author that would have done credit even to one who should have had the advantage of learning the language of the original in the country where the work was composed. He edited, also, a miscellany entitled *Oriental Collections*, in three volumes, 4to. (the principal papers in it by himself), which is still highly appreciated by Eastern scholars.

In 1810, Sir William Ouseley availed himself of the opportunity presented by his brother Sir Gore Ouseley's being appointed His Majesty's Ambassador Extraordinary and Plenipotentiary to the Court of Fateh Ali Shah, King of Persia, to accompany him to that country, where he prosecuted his learned labours, and presented to the world as their fruits

three 4to. volumes, entitled *Travels in various Countries of the East*. This work is enriched with extracts from rare and valuable Persian and Arabic compositions, synchronological comparisons of Oriental authors with those of the classic time and countries, and with many interesting anecdotes.

This, his last great work, was commenced after his return from Persia, where he had travelled and sojourned upwards of a year. The nature of the researches and the recondite criticisms embodied in these *Travels* were such as to obtain a high reputation for the learned author.

In 1832 Sir William Ouseley went to reside with his family at Boulogne-sur-Mer, and after two or three attacks of paralysis, at long intervals, he died in September, 1842, deeply lamented as a man of great and varied learning and most amiable disposition.

WILLIAM GESIENUS was a native of Nordhausen, where he was born in the year 1786. He became a teacher in the Academy of Helmstedt before he reached his twentieth year, and was chosen Professor of Oriental Literature at the Gymnasium of Heiligenstadt, in 1809. In 1810 he became Extraordinary Professor of Theology at Halle, in Prussia; and, in the following year, Ordinary Professor at the same University, in which office he remained until his death. The purely theological writings of Professor Gesenius are comprised in the lectures delivered by him during his professorship; but his reputation is based on his profound philological and critical investigations into the language of the Old Testament. He applied to this subject, more systematically than had ever been done before, the analogy of Arabic and other kindred languages, all of which he had extensively studied: and he has greatly facilitated the acquisition of Hebrew to future learners, by his excellent Grammar and Dictionary. His other chief works in this department are, his *History of the Language*; his *Grammatico-Critical System*; and his *Thesaurus Linguae Hebraicæ*. To these may be added a translation of the book of Isaiah, with a valuable philological commentary. The publication of these works procured for their author the highest European name in that branch of Oriental letters. In 1823, he published a German translation of Burckhardt's *Journey to Syria and Palestine*.

Several years ago Dr. Gesenius turned his attention to the remains of the Phœnician language still existing in one of the Comedies of Plautus, and in various inscriptions and coins found in the countries bordering on the Mediterranean Sea. Several of these are preserved in the Museums of Great Britain; and a very perfect one is in our own. For the purpose of examining these fragments, Professor Gesenius visited London in 1835, and was honourably received by the Society, who did all in their power to forward his views, by furnishing him with a fac-simile of the inscription in the Museum, and by sending circular letters to the British Consuls in Africa and at Damascus, with a request that they would supply casts or drawings of ancient Phœnician coins or inscriptions for the use of Dr. Gesenius. In the preface to his great work on Phœnician Monuments,

published in 1837, the Professor gratefully acknowledges this assistance; and dedicates his work to the Society.

The Rev. J. A. GONSALVES was long resident at Macao, where he devoted much of his time to the study of Chinese, and to the composition of books intended to facilitate the acquisition of that language to his countrymen. The best of these works are in Portuguese. The *Arte China* or Grammar, was published in 1829; it contains a large collection of vocabularies, phrases, dialogues, tales, &c., and examples of every kind of composition, with a short grammar in the Roman character only, and with the pronunciation, both in the Mandarin and the Canton dialects. His Dictionary, though not so extensive as Morrison's, or even that of Basile de Glemona, is valuable for the variety of examples under each word, the accompaniment of the running hand throughout, and the great number of vulgar forms of characters, much in use, but often omitted in other Dictionaries. Gonsalves also published a Grammar for Chinese to learn Latin; a small Latin Chinese Vocabulary; and the first volume of a larger Dictionary in Latin and Chinese. The second volume, which was to contain the Chinese before the Latin, has not reached us.

The ACCOUNTS of the past year have been duly audited, and show the receipts to fall short of the expenditure in the sum of 207*l.*, although every item of outlay has been reduced to the smallest amount, and one Journal only is published in the twelve months. It is, however, to be observed that nearly 70*l.* were expended in 1842, in Lithographic drawings, which will appear in the Journal of the present year, to the account of which, therefore, the amount may be fairly considered to appertain. A like excess of expenditure above the ordinary income of the year would have been observable during the last three or four years, but for certain unexpected additions made to our resources, such as in one year the accumulated amount of several years' sales of books in India—in another, a return of land-tax overpaid for several years—in another, a balance transferred from the late Committee of Commerce and Agriculture. These casual additions, with the remains of the munificent donation of Sir Henry Worsley, have furnished and maintained the surplus with which we commenced the past year, £385 16*s.* 8*d.*; but that sum was reduced at the close of 1842 to £178 9*s.* 3*d.*

The pressure of the heavy charge for house-rent has so often been referred to, that the Council will only observe on the present occasion that its amount is within a few pounds equal to the excess of the annual expenditure above the ordinary income—that such a burden must necessarily cramp all their operations, and check those endeavours of extended usefulness, which it would be alike the most important duty and the highest gratification of the Council to suggest.

Before closing their observations under this division of their Report, the Council have the great satisfaction of announcing a most liberal Donation of One Hundred Pounds to the funds of this Society, transmitted by their late Treasurer, J. Alexander, Esq., with the following letter :

9, *Carlton House Terrace,*  
25th April, 1843.

DEAR SIR,

I have the pleasure to enclose you an order upon Fletcher, Alexander and Co., for £100, which I request that the Council will be so obliging as to appropriate in any way that may be deemed most useful to the objects of the Royal Asiatic Society. Among the privations which I have suffered from confinement it has not been the least that I have not been able to attend its meetings, and to mix with old friends in congenial pursuits; but, owing my own fortune to India, and having ever cultivated a good feeling with its inhabitants, I shall always take a deep interest in an Institution which brings us more and more in connection with that great empire, and which makes us better acquainted with the wants, the habits and the dispositions of each other. I have long anticipated that the period may arrive when India will render us independent of all other nations for the great productions required either for our consumption or our manufactures. And as steam by the facilities which it affords will gradually and progressively tempt intelligent native gentlemen, and enterprising capitalists, to visit this country, whose own operations may be of importance in conducing to this object, it appears to me that this consideration should redouble the efforts of the Royal Asiatic Society, and I only regret that our means are not more adequate, through the medium of the press, to diffuse the knowledge of the natural resources and capabilities of our Indian possessions, which are now beginning to attract an attention more commensurate to their probable beneficial consequences. In the hope that these resources will one day establish our independence of foreign supplies, and that the Royal Asiatic Society will be not only instrumental in assisting the development of them, but in promoting the personal friendly intercourse with the natives,

I remain, dear Sir,

Yours, very faithfully,

*Richard Clark, Esq.*

*Secretary to the Royal Asiatic Society.*

J. ALEXANDER.

The fourteenth number of the JOURNAL will be shortly issued: so much of it as is printed is laid on the Table. The attention of the Council has been drawn to the existence of much information of very great value and general interest, which, having been published in periodical works that circulate only in India, is lost to the European reader; and it has appeared to them to be desirable occasionally to give more ready access to such papers, through the pages of their Journal. In conformity with this view, the forthcoming number will present a Translation from the Persian of the Journey of Mir Izzet Ullah, a native in the employ of the lamented Moorcroft, who, in the year 1812, succeeded in reaching Yarkand. The Translation was made by the Director of the Society, and appeared in successive numbers of the Calcutta Quarterly Review; and was thought to possess an interest which will fully justify its reprint in England, having undergone a careful revision by the Translator.

The LIBRARY of the Society has continued to be enlarged by the presentation of a great variety of works by the authors or publishers, and by other friends, as well as by the Transactions of learned Societies in England, and on the Continent. The Society will acknowledge with particular gratitude a valuable copy of the Granth, or sacred book of the Sikhs, presented by Sir C. M. Wade, C.B., and which had been given to him by Jowahir Sing, a descendant of one of the Ten Priests of the Sikhs.

Several curious and interesting objects have likewise been added to the Museum; but the collections which it possesses, though of considerable extent and value, cannot be exhibited to advantage in the ill-suited apartments of the Society's present house.

The Catalogue, which has occupied more time and labour to prepare than was anticipated when it was first commenced, is now far advanced towards completion. There will be added to it a list of some books most wanted either for general reference, or to complete imperfect series. And it is hoped, that as the limited state of the Society's finances do not enable them to purchase the requisite works, such members as may possess duplicate copies of such books, or of any others which treat of subjects connected with the pursuits for which this Society is embodied, will kindly contribute them to its Library.

The Council have much gratification in laying before the Meeting some details relative to the operations of the ORIENTAL TRANSLATION COMMITTEE, which they have received from the Secretary of that learned body; and which prove that, notwithstanding the very limited number of subscribing patrons now left upon its List, the Committee have been enabled to put forth new claims on the gratitude of the admirers of Oriental literature by the publication of several works since the last Annual Meeting of the Society. They are thus enumerated:—

1. Translation of the Sanhita of the Sama Véda, by the Rev. J. Stevenson, D.D. Octavo, 283 pages.

This curious and interesting addition to our knowledge of Ancient Hinduism was carried through the press, in England, by Professor Wilson, who kindly undertook the task, the translator being then in Bombay. The portion of the Sama Véda comprised in the work, is that called "Sanhita,"—meaning a collection of verses, directed to be sung at the ancient Brahmanical sacrifices; and is distinct from the doctrinal and metaphysical portions of the Véda. In his preface, the translator gives some interesting particulars relative to the Védaic rites and ceremonies. The hymns consist principally of invocations to Agni, the god of fire, and of praises to the various deities who are supposed to honour the ceremony of the somayága, or moon-plant sacrifice, with their presence: many of these deities are unknown in modern Hindu Polytheism. Dr. Stevenson is of opinion that the Sama Véda was composed between ten and twelve hundred years before the Christian era. In concluding his preface, he justly remarks that, "It is not till all the mysterious records of Hinduism have been

brought to light, that we shall be able to take a comprehensive view of the Brahmanical system as a whole, and correct the mistakes which in a greater or less degree always attend limited information."

2. Specimens of the Popular Poetry of Persia, as found in the Adventures and Improvisations of Kurroglou, the Bandit Minstrel of Northern Persia, and in the Songs of the People inhabiting the shores of the Caspian Sea. Orally collected and translated by Alexander Chodzko. 600 pages, octavo.

Mr. Chodzko resided eleven years in the countries where the tales and songs comprised in his work are current; and was thereby enabled to catch the true spirit of the poetry of the people, and to infuse it into his translations. Kurroglou is no imaginary hero, but a celebrated highwayman poet, whose name was a bye word of terror to travellers on the great commercial routes, between Persia and Turkey, in the latter half of the seventeenth century; and the ruins of his castle, called Chamly-bill, are still to be seen in a delightful valley, in one of the districts of Azerbaijan. His character and adventures cannot fail to remind the English reader of the Robin Hood of his own country.

About two hundred pages of the work are occupied with specimens of popular songs of the Astrakan Tartars, Kalmuks, Ghilanis, Persians, &c., full of simple, wild, and forcible imagery. To some of these the original texts are added, with critical notes by the translator, and the music of the airs to which they are sung. In the songs of the people of Ghilan and Mazanderan, Mr. Chodzko found many traces of the Zend language,—a curious fact for the further investigation of antiquarian philologists.

3. Ibn Khallikan's Biographical Dictionary; translated from the Arabic, by Baron Mac Guckin de Slane. Vol. I. 688 pages, quarto.

This great work, which was composed in the thirteenth century of our era, enjoys the highest reputation in Mahomedan literature; and the Orientalists of Europe have long been sensible of its merits and utility. An edition of the text of Ibn Khallikan is in the course of publication by Baron de Slane.

4. The History of Hyder Naik, otherwise styled Shums ul Moolk; Ameer ud Dowla, Nawaub Hyder Ali Khan, Bahadoor, Hyder Jung; Nawaub of the Karnatic Balaghaut. Translated from an original Persian Manuscript in the Library of Her Most Gracious Majesty, by Colonel William Miles. 513 pages in octavo.

This narrative of the eventful life of Hyder Ali, coming from the pen of a native historian, is a most valuable addition to our historic records. Colonel Miles's extensive Oriental acquirements are evident in the ability with which he has executed his translation; and his work has been most favourably noticed by reviewers.

The following Works are on the eve of publication by the Committee:—

1. Histoire des Sultans Mamlouks de l'Egypte, écrite en Arabe par Tak-

eddin-Ahmed Makrizi ; traduit en Français par M. Quatremère. Tome ii. première partie.

2. The Dabistán ; translated from the Persian by Capt. A. Troyer. In three vols. 8vo., with a Preliminary Dissertation by the Translator.

3. Haji Khalifa's Biographical Dictionary : edited and translated by Professor Flügel.

4. The second volume of Baron de Slane's translation of Ibn Khallikán.

The Committee have the satisfaction to include in the list of works preparing for publication, a Biographical work by their eminent and Right Hon. Chairman, Sir Gore Ouseley. This work comprises the Lives of the most eminent Persian poets, compiled from various rare and authentic *Tashkharas*, or collections of original memoirs. It will contain much information of a new and interesting character, derived from sources which few except the Right Honourable author could command.

The acknowledged difficulties of the Arabic work, entitled "*Kitáb-al-Yamíní*," now in the course of translation by the Secretary of the Committee, have retarded its completion, which will not, however, be long delayed. The work consists of detailed memoirs of Sabaktagin, first Sultan of Ghuzni, and of the greater portion of the life of the celebrated Mahmúd, his son, and second Sultán of that family. It was written by one of the family of Utbí, who were eminent courtiers and officers of the dynasty of Sámánies, and afterwards attached to the Ghaznavide Sultáns. There is much elegance and spirit in the composition ; and it well pourtrays that brave and restless character which has ever distinguished the Amírs or Chieftains of Khorasán, and the countries near the Indus. It must have been a popular work, for it was translated into Persian at the command of one of the Atabeg Princes, by a native of Persian Irák, about 200 years after the death of Mahmúd.

The SOCIETY for the publication of ORIENTAL TEXTS, the institution of which was announced at a previous Meeting, has, since our last Anniversary, prosecuted its object with a degree of activity fully proportioned to its resources ; and has now secured for the use of Oriental students, several valuable works. The following have been published in the course of the last twelve months.

*Arabic.*—*Kitab al Milal wa al Nahul* : a treatise on various religious and philosophical sects ; by Mohammed al Sharastani. Edited by the Rev. W. Cureton. Part I. The second and concluding part is in the press.

*Kitab Tahzib Alasmá* : a Biographical Dictionary of illustrious men, by Abu Zakariya Yahya al Nawawi. Edited by Dr. Wüstenfeld, of Göttingen. The two first parts are printed.

*Syriac.*—The Theophania of Eusebius : the Syriac version of a very valuable exposition of Christianity, long supposed to be lost ; and printed from a rare and ancient MS. This has been edited by Dr. Lee.

*Sanskrit.*—The Sanhita of the Sama Védas ; a collection of hymns belonging to the third of the Védas of the Hindus ; printed from a MS. collated 1843.]

by the Rev. Dr. Stevenson, late of Bombay. He is also the author of a translation of the same, which has been published by the Oriental Translation Committee. The original has been carried through the press by Professor Wilson; and has had the benefit of a final revision by Dr. Stevenson, who has recently returned to this country.

The works which have been published by the Oriental Text Society are all of the highest value to the literary and religious history of Asia. Others of a similar standard description are announced; and it is to be hoped that, with adequate support, the Society will place within the reach of Oriental students an extensive series of the most important writings of the East.

It is satisfactory to add, that the operations of the Society will greatly increase the facilities for the prosecution of Oriental studies, as the books are printed in an economical as well as a correct and agreeable manner; differing in this essential result, from the analogous undertaking in France, which has produced the splendid volumes of the "Collection Orientale." The munificent patronage of the French Government, whilst it enables the works to be printed in a truly royal style of execution, has the disadvantage of causing the issue of publications too costly to be purchaseable by the generality of students and scholars.

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### AUDITORS' REPORT.

GENTLEMEN,

*London, 5th May, 1843.*

We have the honour to report that, in conformity with our appointment, we have audited the Accounts of the Society, furnished by the Treasurer, for the year ending 31st December, 1842, and that after carefully examining the books, and comparing the receipts and disbursements with the respective vouchers, we have found them correct. The balance in the hands of the Treasurer is 178*l.* 9*s.* 3*d.*, and the assets of the Society consist of a sum of 1942*l.* 17*s.* 1*d.* in 3 per cent. Consols, exclusive of the value of the Library, Museum, Furniture, &c., which is estimated at 3500*l.*

We have thought it right to confine ourselves strictly to the duty of Auditors, without offering any observations on the state of the finances, which we consider will be brought to notice with far greater weight by the President and Council of the Society.

We have the honour to be, Gentlemen,  
Your obedient and humble Servants,

J. OLIPHANT.  
J. CAULFEILD.  
J. SULLIVAN.

*To the President and Council of the  
Royal Asiatic Society.*



STATEMENT No. 1.  
ABSTRACT OF RECEIPTS AND EXPENDITURE, from 1st of January to 31st of December, 1842.

| RECEIPTS.   |           | EXPENDITURE.  |             |
|---|-----------|---|-------------|
| £   | s. d.     | £   | s. d.       |
| 122 Subscriptions of Resident Mem-<br>bers, at 3 <i>l.</i> 3 <i>s.</i> each . . . . . | 384 6 0   | House-rent, One Year . . . . .  | 220 5 0     |
| 58 ditto, at 2 <i>l.</i> 2 <i>s.</i> each . . . . .                                   | 121 16 0  | Rates and Taxes . . . . .   | 44 5 2      |
| 7 ditto, Non-Resident, at 2 <i>l.</i> 2 <i>s.</i> . . . . .                           | 14 14 0   | Salaries and Wages of Assistant Secre-<br>tary, Clerk, and Porter . . . . .   | 225 0 0     |
| Arrears of Subscription paid up . . . . .   | 19 19 0   |   | 489 10 2    |
| 11 Admission Fees, at 5 <i>l.</i> 5 <i>s.</i> each . . . . .                          | 57 15 0   | Printer's Bill, for Journal, No. XIII. . . . .  | 153 4 9     |
| 1 Composition . . . . .   | 31 10 0   | Sewing Journal, No. XIII. . . . .   | 10 4 7      |
| 1 ditto . . . . .   | 21 0 0    | Plates, &c., to Journal, No. XIV. . . . .   | 67 7 0      |
| Annual Donation of Hon. East India<br>Company . . . . .                               | 105 0 0   | Copies of early Nos. of Journal, sewing<br>No. XII., &c. . . . .  | 20 16 10    |
| One Year's Dividend on Consols (less<br>Income Tax) . . . . .                         | 57 8 9    | Engraving Plan of Tej Mahal . . . . .   | 49 7 6      |
| Publications sold . . . . .   | 16 17 9   | Sanskrit Printing . . . . .   | 5 11 0      |
|   | 179 6 6   |   | 306 11 8    |
| Balance in hand at the end of 1841 . . . . .  | £830 6 6  | Ornamented Diplomas . . . . .   | 10 15 6     |
|   | 385 16 8  | Floor-cloth, 10 <i>l.</i> 5 <i>s.</i> 6 <i>d.</i> ; Stationery, 31 <i>l.</i> 3 <i>s.</i> 6 <i>d.</i> . . . . .                  | 31 9 0      |
|   |           | Bookbinding, 10 <i>l.</i> 13 <i>s.</i> ; Books and Pe-<br>riodicals, 12 <i>l.</i> 19 <i>s.</i> 6 <i>d.</i> . . . . .            | 23 12 6     |
|   |           | Bookshelves, 9 <i>l.</i> 2 <i>s.</i> 11 <i>d.</i> ; Postage, &c.,<br>14 <i>l.</i> 18 <i>s.</i> 10 <i>d.</i> . . . . .           | 24 1 9      |
|   |           | Coals, 15 <i>l.</i> ; Plumber and Glazier, 5 <i>l.</i> 16 <i>s.</i> . . . . .   | 20 16 0     |
|   |           | Collector's Poundage, 37 <i>l.</i> 10 <i>s.</i> ; Miscel-<br>lanies, 8 <i>l.</i> 2 <i>s.</i> 10 <i>d.</i> . . . . .             | 35 12 10    |
|   |           | Housekeeper's Wages, 48 <i>l.</i> ; Sundries,<br>per ditto, 25 <i>l.</i> 10 <i>s.</i> 1 <i>d.</i> . . . . .                     | 73 10 1     |
|   |           | Sundries, per Secretary, 15 <i>l.</i> 5 <i>s.</i> 10 <i>d.</i> ;<br>Property Tax, 6 <i>l.</i> 8 <i>s.</i> 7 <i>d.</i> . . . . . | 21 14 5     |
|   |           |   | 941 12 1    |
| £1942 17 <i>s.</i> 1 <i>d.</i> in 3 per Cent. Consols . . . . .                       | £1216 3 2 | Balance in hand, 31 Dec., 1842 . . . . .  | £1037 13 11 |
|   |           |   | 178 9 3     |
|   |           |   | £1216 3 2   |

## STATEMENT No. 2.

## ESTIMATED RECEIPT and EXPENDITURE for 1843.

| ESTIMATED RECEIPT.                                    |            | ESTIMATED EXPENDITURE.                                |            |
|---|------------|---|------------|
|   | £. s. d.   |   | £. s. d.   |
| 121 Subscriptions, at 3 <i>l.</i> 3 <i>s.</i> each    | 381 3 0    | House Rent, one Year                                  | 220 5 0    |
| 64 Ditto, at 2 <i>l.</i> 2 <i>s.</i>                  | 134 8 0    | Rates and Taxes                                       | 43 15 0    |
| Arrears of Subscription                               | 20 0 0     | Salaries of Assistant Secretary, Clerk,<br>and Porter | 225 0 0    |
|   | £535 11 0  |   | £489 0 0   |
| 12 Admission Fees, at 5 <i>l.</i> 5 <i>s.</i>         | 63 0 0     | Printer's Bill for Journal, No. XIV.                  | 200 0 0    |
| Compositions  | 63 0 0     | Stationery and Circulars                              | 20 0 0     |
| Annual Donation from East India<br>Company            | 105 0 0    | Collector's Poundage                                  | 26 0 0     |
| Dividends on Consols                                  | 56 11 0    | Coals   | 15 0 0     |
| Sale of Publications                                  | 20 0 0     | Books and Periodicals                                 | 15 0 0     |
|   | 307 11 0   | Bookbinding   | 13 0 0     |
| Oriental Translation Fund, Subscrip-<br>tion for 1843 | 30 0 0     | Postage and Carriage                                  | 14 0 0     |
| Donation from J. Alexander, Esq.                      | 100 0 0    | Diploma   | 5 5 0      |
|   | 130 0 0    | Housekeeper's Wages, and Sundries                     | 74 0 0     |
|   | £973 2 0   | Plumber and Glazier                                   | 12 0 0     |
| Balance in hand at the end of 1842                    | 175 9 3    | Sundries  | 20 0 0     |
|   | £1161 11 3 |   | 214 5 0    |
|   |            | Estimated Balance at end of 1843                      | £903 5 0   |
|   |            |   | 248 6 3    |
|   |            |   | £1161 11 3 |

DAVID POLLOCK, Esq., said, that after the gratification which the Meeting must have experienced in hearing the elaborate and interesting Report presented by the Council, it might have been expected that a vote of thanks to the gentlemen comprising that body should immediately follow; but other arrangements having been made for the discharge of that duty, he would satisfy himself by expressing his own gratification at what he had heard; and concluded by moving,—“That the Report of the Council, and that of the Auditors, which have now been read, be received and printed.”

CHARLES ELLIOTT, Esq., seconded the motion, which was unanimously carried.

The Right Hon. CHAIRMAN then rose, and paid a feeling tribute to the character of the late President, whose talents and official rank had commended him to their choice at so recent a period as their last Anniversary Meeting, and who had expressed the high value which he set on the means of information which this Society placed within his reach.—The Right Hon. Chairman then intimated to the Meeting that it would be their duty to proceed to the election of a President.

SIR GEORGE STAUNTON said, that the duty of moving the election of a new President had been committed to him by the Council. The importance of the motion made him regret that it had not been committed to abler hands, for it was unquestionably a matter of vital importance to the future interests of the Society that the President who might be now chosen should be an individual who was able, as well as willing, to employ the influence of his public character and station in promoting the objects for which it was instituted. He was happy, however, that the individual whom he was authorized to propose to the Society on this occasion was so generally known to them as a public man, and his public character and worth so generally appreciated, that he was not likely to sustain much disadvantage from the inability to do justice to his merits, of his proposer.

He felt it his duty, in the first instance, to say a few words respecting their late lamented President, whose very short tenure of the office had given him so little opportunity of evincing the interest which he had always felt and expressed for the Society's welfare. It ought to be generally known, in justice to his Lordship, that it having been privately suggested to him by a member of the Society, that the annual gift of a gold medal on the part of Her Majesty to the writer of the best communication, as awarded in the Royal and Geographical Societies, might materially tend to promote its objects, he immediately submitted and supported a proposition to this effect to Sir Robert Peel; and although Sir Robert Peel said he regretted to feel himself obliged to stand between the Queen and any such application at present, on account of the recent very heavy demands upon the privy purse, he begged it might not be considered as refused, but simply left open for consideration at a more favorable opportunity.

Upon the late lamented decease of Lord Fitzgerald, the Council had submitted to them the names of many highly-gifted and eminent individuals, and felt it their duty to select amongst them for recommendation to the Society for election to the vacant office, the individual whose public character and past services appeared upon the whole to connect him most naturally with the interests and objects of the Society, and to afford a kind of *guarantee* of the disposition he would feel to promote those objects and interests, if elected to the Chair. These qualities appeared to them to be eminently united in the person of the Earl of Auckland, the late Governor-General. Whatever differences of opinion might exist respecting the political measures of his government, all parties appeared to concur in applauding the wisdom of the internal administration of the great provinces committed to his care; and his Lordship always most readily gave the sanction of his countenance and authority, whenever needed, for the promotion throughout India of the literary and scientific inquiries of the Society.

On these grounds, the Council requested Sir Gore Ouseley to ascertain confidentially the feeling of Lord Auckland on the subject; and they have learned with great pleasure from Sir Gore this morning that his Lordship had received the proposal to place his name in nomination for the office of President of the Society with great satisfaction, and assured the Council that, on the event of his election, he would feel grateful and proud to undertake the duties which it imposed upon him. Sir George begged accordingly to move, "That the Right Hon. the Earl of Auckland be elected President of the Society."

The Right Hon. HOLT MACKENZIE had great pleasure in seconding the motion, and the more, because in doing so, it was scarcely necessary for him to add anything to the statement of their Vice-President. In the observations made by Sir George Staunton, as to the importance of the office and the influence which their choice must have on the prosperity of the Society, he entirely concurred; and he thought it a very fortunate thing that they were able to secure the services of one so well qualified, and so much disposed to promote the objects of their labours, as the nobleman who had been proposed to them. Like their Vice-President, he spoke of Lord Auckland without having the honour of a personal acquaintance with him; but he felt warranted in assuring them that, whilst holding the office of Governor-General, that nobleman had shown a lively interest in everything that interested this Society, and had evinced the readiest disposition to forward their views: more especially his Lordship warmly entered into the plans and objects which it had been the main object of their Agricultural and Commercial Committee to develop and promote,—plans and objects of which he might possibly form a somewhat partial estimate, but which he believed they all felt to be, if successfully prosecuted, likely to prove highly beneficial both to India and to England. That the labours of that Committee had not been more successful, was chiefly to be attributed to a cause which now seemed to threaten the very

existence of their Society. He meant the want of funds. His Lordship's experience as Governor-General would enable him readily to comprehend and authoritatively to advocate their claims to public support; and although they might admit the strength of the ground on which Sir Robert Peel was stated to have stood between the Society and the Privy Purse of their Royal Patron, yet he trusted that when the services which the Society had rendered, and was prepared to render, in giving more extended and more accurate knowledge of our Indian Possessions, in maintaining and increasing the interest and respect with which our fellow subjects in that country were regarded, and in enlarging and facilitating those interchanges by which the relation of the two countries could best be made advantageous to both,—when, he said, those things were duly considered and pressed with the knowledge and authority that would belong to Lord Auckland, he trusted that, failing the Privy Purse of their Patron, other sources would not be wanting, whence to supply the means of giving life and vigour to the Society. He felt that if they did not utterly fail in fulfilling the purposes of their Institution, they could establish upon the Government of India, and upon the people from whom its revenue was derived, a claim to support, exceeding a hundred fold the utmost amount of pecuniary aid they had ever ventured to contemplate. He was reluctant to dwell on this subject, but the Report of the Council on the Financial Condition of the Society urged him to do so. Without, however, any reference to such objects, he ventured to anticipate great advantages to the Society, from its having as its President the late Governor-General,—one who intimately felt and knew the value of its pursuits, and who was equally qualified and disposed to support, encourage, and stimulate their labours. It seemed to him that there was something peculiarly appropriate and graceful in his Lordship's thus crowning his Indian career. He retired, indeed, from the cares (it may be, the animosities) of public station. But he combined with the studies of private life the guidance and the patronage of literary and scientific labours intimately connected with the country which he had recently governed, and eminently promotive of its good. And it was not surely too sanguine to augur from a connection arising under such circumstances alike happiness and honour to the noble Lord, and advantage and satisfaction to the Society.

The question was then put from the Chair, "That the Right Hon. the Earl of Auckland be elected as President of the Society," and carried by acclamation.

J. M. MACLEOD, Esq., moved a vote of thanks to the Director and Council of the Society.

The vote was seconded by Dr. ROGERS, and carried unanimously.

CHARLES ELLIOTT, Esq., moved the thanks of the Society to the Vice-Presidents, which was carried unanimously.

N. BLAND, Esq., moved, and Dr. ROGERS seconded, a vote of thanks to the Honorary Secretary.

The motion was carried unanimously, and RICHARD CLARKE, Esq., returned thanks.

J. GOLDIE, Esq., moved, and R. HUNTER, Esq., seconded, a vote of thanks to the Treasurer and Librarian.

CHARLES ELLIOTT, Esq., moved, "That the thanks of the Society are due to James Alexander, Esq., the late Treasurer, for his liberal donation of 100*l.* to its funds."

Seconded by Dr. ROGERS, and carried unanimously.

Scrutineers having been appointed, the Meeting proceeded to ballot for the Officers of the Society and the new Members of the Council.

The Right Hon. the Earl of Auckland was elected President ; all the other Officers were re-elected ; and the following new Members of the Council were elected in place of those going out by rotation :—

James Ewing, Esq.  
 The Most Hon. the Marquis of Lansdowne.  
 Sir G. G. de H. Larpent, Bart.  
 Major-General Sir J. Law Lushington.  
 Major James Oliphant.  
 Dr. J. Phillimore.  
 John Sullivan, Esq.  
 Major Sir Henry Willock.

## DONATIONS

TO THE

## LIBRARY OF THE ROYAL ASIATIC SOCIETY,

FROM APRIL 1841, TO APRIL 1842.

## HISTORY, CHRONOLOGY, BIOGRAPHY, POLITICS.

| TITLES OF BOOKS.   | DONORS.                                  |
|--|--|
| Political and Statistical Account of the British Settlements in the Straits of Malacca. By T. J. Newbold, Esq., Lieut. 23rd Regiment, Madras Light Infantry. 2 Vols. 8vo. London, 1839 - - - - - | <i>Author.</i>                           |
| Manners and Household Expenses of England, in the Thirteenth and Fifteenth Centuries. Illustrated by Original Records. 4to. London. 1841 - - - - -   | <i>B. Botfield, Esq., M.P.</i>           |
| Observations on the Neilgherries, &c. By R. Blakie, Esq., M.D. Edited by W. H. Smoult, Esq. 8vo. Calcutta, 1834 - - - - -  | <i>Editor.</i>                           |
| History and Description of Kamchatka. In Russian. By M. Kracheninnikow. 4to. St. Petersburg, 1755 - - - - -  | <i>M. Prévost.</i>                       |
| Histoire des Tems Anté-Diluviens, ou Antérieurs au Déluge d'Yao, arrivé l'an 2298 avant notre Ere Sm. 8vo. Paris, 1837 - - - - -   | <i>Sir G. T. Staunton, Bart, M.P.</i>    |
| The First Translation of The Sëir Mutákherin. 4 Vols. 4to. Calc., 1789 - - - - -   | <i>Bequest of N. B. Edmonstone, Esq.</i> |
| Geschichte der Ilchane; das ist, der Mongolen in Persien. Von Hammer-Purgstall. Erster Band. 8vo. Darmstadt. 1842 - - - - -  | <i>Author.</i>                           |
| A Review of the War in Mysore, &c. By M. Wood, Esq., M.P. 4to. London, 1800 - - - - -  |  |
| Memoir of the Life and Public Services of Sir Thomas Stamford Raffles, &c. By his Widow. 4to. London, 1830 - - - - -   | <i>Sir G. T. Staunton.</i>               |
| Einleitung in das Verständniss der Weltgeschichte. Von A. Gladisch. Erste Abtheilung. Die Alten Schinesen und die Pythagoreer. 8vo. Posen, 1841 - - - - -  | <i>Author.</i>                           |

1842.

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- HISTORY &c, *continued.*
- |   |  |         |
|---|--|---------|
| Versuch einer Geschichte der Schirwanschähe. Von B. Dorn. 4to. St. Petersburg, 1841   | } <i>Author.</i>                           | DONORS. |
| Geschichte Schirwans unter den Statthaltern und Chanen von 1538—1820. Von Dr. B. Dorn. 4to. 1840  | } <i>Author.</i>                           |         |
| Kritische Beurtheilung der vom Hrn. Quatremère herausgegebenen Histoire des Mongols de la Perse. Von F. v. Erdmann. 8vo. Kasan, 1841                                    | } <i>Author.</i>                           |         |
| <b>GEOGRAPHY, ETHNOGRAPHY, TOPOGRAPHY, VOYAGES, TRAVELS, STATISTICS, NUMISMATICS.</b>   |  |         |
| Géographie d'Edrisi, traduite de l'Arabe en Français, par P. A. Jaubert. Tome II. 4to. Paris, 1840  | } <i>Translator.</i>                       |         |
| The Itinerary of Rabbi Benjamin of Tudela. Translated and Edited by A. Asher. Vol. II. 8vo. London and Berlin, 1841   | } <i>Messrs. Asher and Son.</i>            |         |
| Ariana Antiqua.—A Descriptive Account of the Antiquities and Coins of Afghanistan. By H. H. Wilson, M.A., F.R.S. 4to. London, 1841                                      | } <i>Hon. East India Company.</i>          |         |
| Museo Numismatico Lavy, appartenente alla R. Accademia delle Scienze di Torino. 4to. Torino. 1839—40  | } <i>Signor G. Micheli.</i>                |         |
| Sulle Operazione Stradali di Sardegna. Discorso del Cavaliere G. A. Carbonazzi. Torino, 1832. 8vo.  | } <i>Author.</i>                           |         |
| Narrative of a late Steam Voyage from England to India, viâ the Mediterranean. By Capt. T. S. Burt. 8vo. Calc., 1840  | } <i>Author.</i>                           |         |
| Hand-Book for India and Egypt, comprising the Narrative of a Journey from Calcutta to England, &c. By G. Parbury, Esq. 12mo. London, 1841                               | } <i>Author.</i>                           |         |
| Essai sur la Statistique Générale de la Belgique, composé sur des Documents Publics et Particuliers. Par X. Heuschling, et publié par Ph. Vandermaelen. Bruxelles, 1841 | } <i>Editor.</i>                           |         |
| Krusenstern's Voyage round the World. Translated from the Original German. By R. B. Hoppner, Esq. 2 Vols in one. 4to. London, 1813                                      | } <i>Sir G. Staunton.</i>                  |         |
| Lisiansky's Voyage round the World. 4to. London 1814  | } <i>Author.</i>                           |         |
| Découvertes dans la Troade et dans les Traductions d'Homère. Par A. T. Mauduit. 4to. Paris and London, 1841   | } <i>Author.</i>                           |         |
| Report from the Military Board, of Public Works done in the Civil Department. 1839—40. Fol.   | } <i>Hon. East India Company.</i>          |         |
| Ueber die Geographische Verbreitung des Zuckerrohrs. Von C. Ritter. 4to. Berlin, 1840   | } <i>Professor Ritter.</i>                 |         |
| Tavernier's Persian Travels. 4to. (no title page).  | } <i>Bequest of N. B. Edmonstone, Esq.</i> |         |



## PHILOLOGY.

DONORS.

- Radices Linguae Sanscritae ad decreta Grammaticorum }  
definitiv atque copia exemplorum exquisitiorum } *Author.*  
illustravit N. L. Westergaard. 4to. Bonnæ, 1841 }
- Outline of a Vocabulary of a few of the principal Lan- }  
guages of Western and Central Africa. Compiled } *African Civilization*  
for the use of the Niger Expedition. London, } *Society*  
1841 - - - - - }
- Dictionarium Latino-Anamiticum, et Anamatico-Latinum. }  
Auctore J. L. Taberd. Ex Typis J. C. Marsh- } *Author.*  
man. 2 Tom. 4to - - - - - }
- A Grammar of the Persian Language, to which are sub- }  
joined several Dialogues, &c. By Mirza Moham- } *Author.*  
mad Ibrahim. 8vo. London, 1841 - - - }
- Panini's Acht Bücher Grammatischer Regeln. Heraus- }  
gegeben und erläutert Von Dr. Otto Böhtlingk. } *Editor.*  
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