

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR JULY, 1860.

The Monthly General Meeting of the Asiatic Society was held on the 4th Instant.

A. Grote, Esq., President, in the chair.

The proceedings of the last Meeting were read and confirmed.

Presentations were received—

From the Madras Government, Selections from its Records No. 64 (containing Report on the Agricultural Exhibitions in the provinces in 1859).

2. From the Government of India, Home Department, a copy of a work containing No. 27 of the Appendix of the Bombay Government record.

3. From the Municipal Commissioners, a copy of their report for 1859.

4. From His Royal Highness the Prince Consort, through Alexander Murray, Esq., of Edinburgh, a remarkably fine stuffed head, with horns, of the Scottish Red Deer with the 'cup' of 'royal crown' to the horns and the tines complete. "This animal was killed by his Royal Highness, the Prince Consort upon Locknagaar on the 8th September, 1859. Weight after being cleaned out 16st. 12lbs." Some further particulars about the specimen are given in the Curator's report.

On the motion of the President, a vote of thanks was unanimously accorded to His Royal Highness for this valuable addition to the Society's collections.

5. From J. F. Galiffe, Esq., two living specimens of the large Gecko Lizard, *Tokki or Toktu*, (*Platydyctylas Gecko*) captured at Russa near Calcutta.

6. From Baboo S. S. Ghose a large Medusa cast ashore at Diamond Harbour apparently of the genus *Cephia* of person, but the appendages mutilated of all but their peduncles.

7. From Baboo Rajendra Mallik various eggs laid in his aviaries; also, for exhibition to the Meeting, a stuffed specimen of a newly discovered species of Cassowary, at present unique; five species of this remarkable genus being now recognised, of which two have been first brought to notice within the present year.

The following gentlemen, duly proposed at the last Meeting, were balloted for, and elected ordinary members.

Rajah Bunsput Singha.

A. B. Sampson, Esq.

W. Grey, Esq.

J. P. Grant, Esq. Jr.

Dr. B. Simpson.

G. H. M. Batten, Esq., B. C. S.

E. G. Mann, Esq.

L. F. Byrne, Esq., C. E.

George Shelverton, Esq., and

Syud Ahmed Khan.

The following gentlemen were named for ballot as ordinary members at the next Meeting.

Dr. A. J. Payne, Superintendent of the Insane Hospital; proposed by Mr. F. L. Beaufort, seconded by Major Thuillier.

Captain C. M. FitzGerald, Deputy Commissary General; proposed by Major F. D. Atkinson, seconded by Mr. Atkinson.

T. E. B. Judge, Esq., proposed by Mr. Atkinson, seconded by the President.

The Council reported that they had added Col. Baird Smith and Dr. H. Halleur to the Committee of Meteorology and Physical Science.

The President proposed the following resolution:—

Resolved that the Meeting desires to record its sense of the heavy loss which the cause of Oriental literature has sustained by the death

of Professor H. H. Wilson, and to express at the same time the sincere and affectionate regrets with which this Society finds itself deprived of the advice and assistance of its oldest and most distinguished member.

In moving this resolution, the President spoke as follows:—"I need scarcely remind the Meeting that since we last met the mail has brought us the announcement of the death of a very old, indeed our oldest Member. Horace Hayman Wilson, late Boden Professor at Oxford, died in London on the 18th May at the advanced age of 73 after a connexion with our Society of more than half a century; for he joined us immediately on arriving in this country in 1808, a period at which we had only just established ourselves in the building in which we now sit. Colebrooke was then our President, and Hunter had been our Secretary with a short interval from 1798, so that by his succession to Hunter as Secretary, in 1810, Wilson has a title to be ranked among our earliest office-bearers. He filled the Secretaryship for 22 years; in fact until his retirement from India in 1833; and during this long period he devoted himself almost exclusively to the study of the Sanscrit classics. His first work was the translation of the *Megha Duta*, and in 1819 he brought out the first edition of the first Sanscrit and English Dictionary which had been compiled. He then published his *Selections from the Hindoo Drama* and the catalogue of the *Mackenzie MSS.*, and was, when he left this country, engaged on his analysis of the *Purans*, four of which he completed before his departure, and the original *MSS.* of which are all in our Library. These works, however, were by no means all his contributions to Oriental literature. One of the most important papers which has appeared in our *Researches* was written by him in 1825; I allude to his *Essay on the Hindoo History of Cashmere*, which, with other papers, helps to make Vol. XV. of our *Researches* the most interesting, perhaps, of the series.

The address which was presented to Wilson by our President, Sir E. Ryan, and his Vice-Presidents, Drs. Mill and Tytler in December 1832, shows how fully our Society then appreciated the loss which it was about to sustain of his eminent services, while his answer evinced the unabated interest in our Society's proceedings which he was carrying away with him.

At our request he kindly consented to act, as Colebrooke had for some years acted, as our London agent, and it was in this capacity that he so successfully pleaded our cause with the late Court of Directors and obtained for us the monthly grant which now forms our Oriental Fund. The correspondence which we had with Government and with Wilson himself in 1856 is a sufficient proof that he wished still to take a part in our deliberations for appropriating this grant; and it must be a source of gratification to us now to feel that in bringing out the Persian historical texts which we have lately resolved on undertaking, we shall be working more than we were a few years back in the special direction in which he wished to lead us.

What Wilson had been to our Society during his stay in this country he has since his return to England been to the Royal Asiatic Society which Colebrooke had founded ten years previously. Whether as President or Director, he has been its moving spirit at least on all occasions on which Indian subjects were to be dealt with. Besides his contributions to the transactions and Journal of that Society he found time to bring out a further edition of his Sanscrit Dictionary, "*Ariana Antiqua*," a work of the greatest archæological and historical value, a Glossary of Indian terms, and a continuation of Mill's History of India up to Lord William Bentick's administration. His introduction to the Sanscrit Grammar is known to every student of the language, and his edition of his old fellow-passenger, Moorcroft's Travels in the Himalyan provinces, to every geographer. The last work on which he was engaged was the translation of the "*Rig Veda*," and his determination himself to effect its completion is strikingly shown by the way in which he has anticipated Müller's edition of the Text. Wilson died a few days only before the 37th Anniversary Meeting of the Royal Asiatic Society. He had when vacating the Presidentship of that Society in 1858, and acknowledging the usual resolution of thanks which Mr. Marshman had moved, and in which a hope was expressed that he would soon re-occupy his proper post, made a touching allusion to the improbability of his surviving the interval which must by the Rules of the Society precede his re-election.

What little I have said does not profess to approach to an ade-

quate notice of so indefatigable a man and so complete a scholar. It is intended only to preface the Resolution which I hold in my hand, and to which I am going to ask the assent of this Meeting.

Communications were received—

From J. Obbard, Esq., a paper on the "Translation of waves of water with relation to the great flood of the Indus in 1858."

2. From T. Oldham, Esq., extracts of letters from J. L. Stewart, Esq., M. D., 14th Punjaub Infantry employed with the expedition to the Wuzeeree country:—

"I generally pick up a bit of stone here and there, but as I have made no arrangements for the carriage of such heavy goods, I am obliged to be contented with very 'wee bits' which I suspect would be much too minute to be of use to you. Next time, if I have another chance, I purpose making better arrangements in this respect. Near where we have been encamped recently, blocks big and little were abundant (I nowhere have seen it in strata or in situ) of a calcareous rock crammed with corals, echinide mata (?) and shells of various species, some not uncommon, but I have not seen a trace of vegetables or of higher animals. This doubtless partly depends on my want of practice. Almost all these are, however, too bulky for my means of stowage.

"The expedition started from Ták (to the N. W. of Dera Ismael Khan) and hitherto we have been advancing up the bed of a small stream called the Zam. We have only come 24 miles from Ták, but will go on to the central city of the Wuzeerees (Kanee-gorm) some 25 miles apparently, to the west, on a mountain which ought to be near the watershed of what here represents the "Suliman" range. The mountain has been calculated from a distance as upwards of 11,000 feet, but as yet although we rise very considerably with the slope of the bed of the Zam, we have gained no great elevation. The stream cuts through the ridges crossing them, and gives numerous sections, as do the innumerable ravines and gullies.

"For the first ten to twelve miles from the plains the rocks were all soft standstones and conglomerates alternating, at first dipping to the west mostly at a low angle, and presenting a steep escarpment towards the plains of Ták on the east, latterly dipping to the east and contorted variously at varying angles. We then came on cal-

careous strata and for the last five or six miles the rocks are mostly of rapidly disintegrating strata, red, greenish, and with salt efflorescing on the surface. Amongst these, which on the surface become earthy masses, are some nummulitic beds alternating with non-fossiliferous grey limestone and strata of sandstone and grit, often vitrified and darker coloured externally. All these dip to the east at all angles varying from 1° to 90° , but mostly from 15° to 45° , roughly speaking, amongst them are a few thin beds of flint. The masses with corals lie about on the surface and in drift masses, in something like a line parallel to these strata.

“Upon the lower parts of these inclined strata in many places are plateaux of gravel having amongst it large vitrified-looking blocks. These plateaux are of several acres in extent, and from 50 to 100 feet above the bed of the stream. Occasionally below that, and a few feet above the stream, are patches of alluvial soil cultivated by the inhabitants, apparently very fertile.

“The day following we made a march of $4\frac{1}{2}$ miles up the Zam ravine, till we came to a *tangai* (a ‘tightness’ as they call their passes in Pushtu) beyond which the General considered it advisable not to go that day. The strata composing the hills on either side, so far as they were not obscured by the horizontal shingle beds, appeared to consist mostly of a brownish limestone alternating with beds of the coloured disintegrating shales, the latter far exceeding the former in quantity, all dipping to south-east at moderate angles.

“In front of us, the stream came through a narrow gorge between a height of perhaps 200 to 250 feet, composed of a light coloured limestone with numerous veins of calcareous spar running in all directions through it. Its strata considerably waved, and with a low dip to the north-west. The strata of these heights seemed at the point of junction to overlie the coloured strata, but I had not an opportunity of getting close to the point.

“The 4th was rather a momentous day, and I had not much time for dawdling and looking about, as some five miles up, the Wuzeerees stood, and the fight of the expedition came off.

“After we passed through the *tangai* the strata were mostly of greyish non-fossiliferous limestone overlying unconformably beds of the coloured shales. The uppermost beds of the limestone here had a

character, which I had occasionally remarked before, of 'tessellation,' that is, were divided into little quadrilateral blocks, the upper edges of which were rounded.

"Beyond the Barrarra pass, where the fight took place, the lower strata visible were the coloured disintegrating beds, generally at a high angle with dip to south-west; the higher hills of the waved limestone dipping to S. W. at a *low* angle.

"On the 5th, we made a march of 15 miles, notwithstanding our many wounded, to Kaneegorm, and the flora was so new, that I had not much leisure for looking at the rocks. Our camp at Kaneegorm was trigonometrically 6,700 feet above the sea level, and we probably rose more than 2,500 feet in that march.

"We gradually appeared to leave the limestone rocks, although (occasionally) the coloured rocks were seen overlaid by limestone, and got among hills composed of slate in very thin beds, mostly and frequently with markings of angle (?) over their surface. These slate strata were frequently contorted and wavy.

"For the last two days the quantity of granitic stones among the gravel, was very much on the increase. About and below Palasin; (the place whence I wrote my last letter,) hardly a bit of granite was to be seen; here the shingle is almost entirely granitic.

"6th halt.—7th.—I went with the survey party to the top of a hill to the S. S. W. some six miles off, and 1600 feet higher than the Kaneegorm camp. The strata on the way appeared mostly of what looks like a thin bedded sandstone (?) generally dipping to N. W. at pretty high angles.

"Our road up to Kaneegorm had lain still in the bed of the Zam ravine, and latterly in that of one of its tributaries. As we got near the centre of the range here the streams became quite small.

"On the 8th, we marched eight miles down the stream on the same road by which we had come, and then I had more opportunity of noticing that in a general way the ranges run north and south, and that the strata, although occasionally horizontal and often contorted, are generally at an angle of about 45°, with the dip to the west (W. N. W.). The beds are mostly thickish and of slaty rock, with occasional strata of bluish disintegrating schistose structure.

"There were, however, but few sections to be seen on account of

frequent masses of horizontally deposited shingle, mostly granitic, or of the above rocks. Further down, the upper strata appear generally the grey contorted and waved slaty, overlying and hardly conformable with the thinner bedded blue slaty rocks.

“10th.—We left the road by which we came up, and diverged to the northward some five miles. The strata mostly of the thick bedded grey slaty rocks, contorted, and at varying angles, and dip generally not far from horizontal.

“Here we were within a mile of another central cluster of their villages called Makin and the nearest point to which we got to the central mass of this range of hills called Pirghar or Ghal, points of which towered some 2000 to 4000 feet above us. Where the stratification can be seen, as in the nearer masses, it appears nearly vertical and bent.

“On the 11th with one of the covering parties of a burning expedition to these villages, I got on a ridge somewhat nearer to Pirghar. The surface of this ridge is mostly composed of shingle, granitic, and very rarely slaty grey rock visible *in situ* nearly vertical.

“On the 12th a march of eight miles, still northerly, up a bank bed, and camp at about 7300 feet; the highest camp we had. Just on reaching camp passed a number of strata of the algæ, marked, thin, bluish, hard, shaly strata overlying beds of the thick, vitrified looking rock. I mentioned before, both at a high angle dipping to the west. The general disposition of the grey slaty rock we saw is, however, nearly horizontal, with a slight dip to east. Most of the valley in which we progressed was a mile wide, and occasionally more, filled up by horizontally disposed shingle beds, our road being up the bed which the stream has cut through these.

“14th.—Marched five miles still to northward. For $1\frac{1}{2}$ miles we rise, then down a steep rocky ravine; rocks mostly shaly, and the vitrified looking varieties generally at high angles, dip to east; some of the strata occasionally much contorted.

“For days, evidences of the Iron manufacture for which Kanee-gorm has long been famous had been visible, such as furnaces and slag, &c., with occasionally, in villages, stores of iron stone. None of the latter, however, did I happen to see. Here I thought we

must be near the ore, and made some efforts to get at some place whence they dig it, but am sorry to say, failed.

“15th.—We went more to eastward descending towards Bunnoo in the ravine of the Khyssor stream. The rocks mostly slaty, and the ‘vitrified’ at high angle dip to the west, and often covered by horizontal shingle beds to 50 or 60 feet, which obscure matters greatly, so that sometimes for a mile or two no rock *in situ* could be seen. The lower beds of this shingle are here occasionally consolidated into conglomerate.

“16th.—The strata, mostly of the dark “vitrified” surfaced rock, generally at about 45° dip to west. Then a grey rock with white streaks (limestone) nearly horizontal and contorted, then with a strong dip to west and still contorted; occasional shaly beds.

“17th.—Halt. Here we were in a region of plateaux of the horizontally laid gravel with, a mile or two to south, the western termination of a flat sloping hill with the strata dipping slightly to the east.

“18th.—A mile or two on we pass through the gorge formed by the stream crossing through the end of the above hill, which is of non-fossiliferous limestone. This appears to be near the geological ‘level’ of Palasin; for here, also, there are numerous heaps of the black decomposed rock we had there, with other particoloured debris: vertical strata of the white non-fossiliferous limestone. Numerous blocks of the coralline (?) rock seen lying about, but I could not get near any of them. Nummulitic blocks and pebbles numerous among the shingle. Then after about a mile of these heaps of coloured debris we go through a gorge formed by nearly vertical ridges of dark coloured hard sandstone, followed by sandstone strata also at a high angle (dipping to east) with one or two strata of conglomerate. Blocks of the dark superficially vitrified stone profusely strewn over all the heights.

“On the 19th a mile and a half carried us from among these low ridges into the Bunnoo plain, here stony, mostly uncultivated, and sloping from the hills.”

In forwarding these extracts, Mr. Oldham writes as follow:—

Nainital, June 9th, 1860.

MY DEAR GROTE,—I enclose you a brief extract from a note received from Dr. Stewart of the 14th Punjab Infantry, who is at present with

Chamberlain's expedition against the Wuzeerees. Dr. Stewart is devoting his leisure moments, principally to botanizing, I believe, but he has in his note given some geological details which are of great interest. It has hitherto been supposed that the rocks representing the Siwalik group extended very much further to the west from the plains of upper India, even beyond the Ghilza range, but this note shews the occurrence of nummulitic beds within a very few miles of Ták.

The soft sandstones and conglomerates are, I think, clearly the Siwalik group, and probably the upper portion of this enormously thick series. The physical structure of the hills there, also, appears to correspond with that of the Siwalik hills here. They run to the N. W. presenting a scarp to the plains of beds dipping sharply into the hills. The calcareous beds associated with red, greenish, and white shaly beds rapidly disintegrating into earthy masses seem to represent the lower part of the nummulitic series; at least this is the general character of that part of the group in these hills. The layers of *chert* or flint are frequent here as there. If this conjecture be correct, it must follow that there, as here, a great fault separates these two series.

The remarkable fact of the streams cutting across the ridges of the outer or Siwalik rocks is abundantly paralleled here too, and nothing is more striking on passing up the river gorges here than the marked plateaux or terraces of gravelly detritus which occur at various levels, such as are noticed in Dr. Stewart's note.

I sincerely hope to have further information from the writer of the interesting note regarding a country of which we know so little.

Yours sincerely,

(Signed) T. OLDHAM.

Since forwarding the above notes, specimens of the iron stone used on these hills has been received from the Government of the Punjab, and submitted to assay in the Geological Survey Office, Calcutta. The results are as follow.

The specimens consist of samples of a rock which is itself composed of iron ore in two distinct conditions.

(a) One portion is a common hydrous peroxide of iron containing 40.4 per cent. of iron.

(b) The other is a similar mineral mechanically mixed with carbonate of lime, in small quantities, the mass containing 31.8 per cent. of iron.

LIBRARY.

The following books have been added to the Library since June last.

Presented.

General Report of the Municipal Commissioners of Calcutta for 1859.—
BY THE COMMISSIONERS.

Selections from the Public Correspondence of the Punjab Government, vol. IV. Nos. 4 and 5.—BY THE GOVERNMENT.

Selections from the Records of Travancore. Part I. (containing Memoir of Travancore).—BY THE MADRAS GOVERNMENT.

The Oriental Christian Spectator for May.—BY THE EDITOR.

Bibidharta Sangraha for the month of Kartick.—BY THE EDITOR.

Selections from the Records of the Madras Government, No. 64, (containing Report on the Agricultural Exhibitions in the Provinces in 1859).—
BY THE MADRAS GOVERNMENT.

Proceedings of the Academy of Natural Sciences of Philadelphia from October, 1859, to February, 1860.—BY THE ACADEMY.

Proceedings of the Royal Society of London, Vol. X. No. 38.—BY THE SOCIETY.

Description of a deformed fragmentary human skull, found in an ancient Quarry cave at Jerusalem.—BY J. Aitken Meigs, M. D.—BY THE AUTHOR.

Exchanged.

The Athenæum for April, 1860.

Journal of the Academy of Natural Sciences of Philadelphia. New series, Vol. IV. Part 3.—BY THE ACADEMY.

Zeitschrift der Deutschen Morgenländischen Gesellschaft. Band, XIV. Heft I. and II.—BY THE SOCIETY.

The Philosophical Magazine for May, 1860.—BY THE EDITORS.

Purchased.

The Literary Gazette, Nos. 95, 96, 97 and 98.

Comptes Rendus, Nos. 15, 16, 17 and 18 of Tome L.

Revue des Deux Mondes, Tomes 26 and 27.

Annales des Sciences Naturelles, Tome XII. No. 2.

Journal des Savants for April, 1860.

The Natural History Review, No. 26.

The Annals and Magazine of Natural History, Vol. V. No. 29.

Die Leider des Hafis, Vol. II. Part 4.

Vendidad Sadé, VI. Livarison.

FOR AUGUST, 1860.

At a meeting of the Society held on the 1st instant, A. Grote, Esq., President, in the Chair.

The proceedings of the last meeting were read and confirmed.

Presentations were received—

1. From C. Hobhouse, Esq., C. S., nine silver coins found in May last year, in throwing down one of the old Embankments on the right bank of the river Damoodah in Pergunnah Hubilee of the district Hoogly. These coins are of the last century, from the Moorshedabad mint.

2. From Michael M. S. Dutt, Esq., a copy of his work named “The Birth of *Tillottoma*,” being the first epic poem in blank verse in the Bengali language.

3. From the British Indian Association, a copy of their Report for June last.

4. From C. J. Evans, Esq., Calcutta, frontal portion of skull of an African baboon, probably *Cynocephalus hamadryas*, found by himself in the dry well of the pyramid of Cheops. The specimen is quite recent.

5. From the Rev. H. Baker, Junior, of Mandakyam, Alipee, S. Malabar, skins of *Sorex marinus* and *Sciurus trilineatus*.

The following gentlemen, duly proposed at the last meeting, were ballotted for and elected ordinary members :—

Dr. A. J. Payne ; Capt. C. M. Fitzgerald, and T. E. B. Judge, Esq.

The following gentlemen were named for ballot at the next meeting.

W. Forbes Goss, Esq., proposed by Mr. Medlicott, and seconded by Mr. W. Blandford.

Major T. James, Bengal Army, proposed by Dr. Crozier, seconded by Mr. W. S. Atkinson.

The Council reported that they had nominated Major H. L. Thuillier a member of their body and also a Vice-President of the Society in the room of Col. Strachey, who has left India.

Communications were received—

1. From Lieut. Col. A. Phayre, Commissioner of Pegu, a paper entitled "Remarks upon an ancient Buddhist Monastery at Pu-gân on the Irrawaddy."

2. From Dr. J. L. Stewart, 14th Punjaub Infantry, a Journal of a Botanical Tour in Hazara and Kháján in April and May, 1859.

Extracts from this paper were read to the meeting by Dr. Thomson.



Secretaries, The. 1861. "Proceedings of the Asiatic Society of Bengal, for July, 1860." *The journal of the Asiatic Society of Bengal* 29(III), 310–322.

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