PRESIDENT'S ADDRESS.

GENTLEMEN,—Another year has passed, and the recurrence of our anniversary reminds us of the propriety of taking stock of our progress, and ascertaining our exact position.

It will be needless to repeat the numbers so clearly given in your Council's report, or to detail the various changes in resident and non-resident members. It will be sufficient to refer to these details, and to state the broad result that the Society is not, pecuniarily, quite as well off as at the close of last year, that the amount of subscriptions realized has not come up to the estimate, and that the year has closed, leaving charges against the income of the Society for 1873, which properly should have been paid out of the income for 1872. We fear that this will continue to be the result of the working of the Society so long as we are huddled together into the corner of our noble house, without room even to store our books, and with all our property deteriorating rapidly, from the impossibility of properly attending to it.

The Society is fully aware from the addresses of previous Presidents, that we hold that we have a just claim for redress of these wrongs and injuries as against the Government of the country who, voluntarily and in the most solemn manner supported by all the formalities of a regular act of the legislature entered into a contract with the Society to provide ample accommodation for that Society on a certain date, the Society meanwhile allowing the collections, which they handed over to the care of the Government officers for the public benefit, to remain in the house they then occupied, and still occupy. This house and grounds are the undoubted property of the Society—they are in no way whatever subject to the control of Government in any one of its departments. And the Society has therefore from the date settled in the contract I have alluded to, been deprived of the rent which they could have at once realized for this house, from that date up to the present time, and they have further been muleted, by the non-performance of their part of the contract by the Government of the country to the extent to which their property has been left so long without repair, and without renewal, which could not be satisfactorily done while crowded with collections, until now portions of it are unsafe, and in any case the serious cost of repair will absorb a very large sum. This just claim for the payment of a rent for the house they have occupied, for years after the stipulated time, had been as you are aware submitted to Government. The Society has not received a definite reply although more than two years have elapsed. The Council of the Society have endeavoured in every justifiable way to smooth the

path to a settlement, and more recently they have preferred to let the matter rest without further movement, because they felt so thoroughly convinced of the strict justice and unquestionable correctness of their claim, that they felt certain that time alone was requisite for a favourable solution of the difficulty. This claim is so strong that its strict legality has been maintained by several of the Judges of the High Court of Judicature, and to maintain it, in a legal way, it was only necessary to close our doors and to refuse the use of our house and so prevent the destruction caused by the hundreds which daily throng its halls. But, as I have said, the Council preferred endeavouring to obtain their just rights by quiet efforts to maintain the position of the Museum, while not in the least abandoning their claim. This *they never will abandon;* they seek no grant-in-aid of their efforts in promoting the spread of knowledge in the country, although this also they might fairly expect to receive; they ask no dole of charity to help out their existence, though the grant of such assistance would but honor the giver more than the recipient, for science has ever been the best handmaid of Government. But we maintain a just claim to the payment of certain sums, due to us under a solemn contract, and fairly and properly earned as it were by the Society, by the noble collections which they had brought together and maintained, even often at the risk of their own existence, and which they handed over for the public benefit. Surely the public is bound to acknowledge this value received!

Let us look at it in another light. What was the value of the collections handed over! It is almost impossible to put a money value on collections of this kind. The number of specimens gives no clue to it, their value depends much more materially on other considerations. Our collections contained all the typical and original specimens of Blyth's wonderful contributions to the Natural History of this country, those of Bryan Hodgson in numerous departments, many of Jerdon's specimens, many of Buchanan Hamilton's; large series contributed from other countries identified by the original describers and contributors. It contained a noble series of Sewalik fossils all of which had been carefully examined by Dr. Falconer himself, and carefully catalogued. And it also contained a very extended collection of objects representing the fauna of this country from various sources. Such a collection could not have been obtained anywhere else for *any* money. And I have no hesitation in saying that had it been put into the market and offered for sale, it would have readily realized a sum of two and a half lakhs of rupees. Take even less than this sum at five per cent., and the Society would have had an income of 10,000 Rs. per annum, or more than 800 Rs. per month! And this I would add, with their house unincumbered and free for the prosecution of their own immediate objects. Gentlemen, it may suit the views of some who seek possibly the aggrandizement of their own position, or to

enlarge upon their own contributions to such collections, to depreciate the value of the Asiatic Society's collections. But I speak with a full knowledge of the feeling of true naturalists, and true palæontologists, when I say that such a storehouse of the accumulated facts of generations, such an accumulation of original species, of the absolute labours of the great workers in the Natural Sciences, was simply invaluable.

Gentlemen, I have dwelt upon this subject, although for many reasons I would have greatly preferred to pass it over in silence, because I have been made aware that a most erroneous, and strangely erroneous, idea prevails in certain places, that the Government of the country contributes largely towards the Asiatic Society's support. It is needless to tell you, as the members of the Society, that this is not so; that we do not in fact receive one single pice of the public money as income of the Society, and have not for many years past. We acknowledge with thankfulness the liberality with which on some occasions, when special wants were represented, the Government have aided the Society, but none of these have occurred for years past. We acknowledge that for years when unwilling to adopt other and better means of exhibiting to the people of this country the resources of the land in which they dwelt, the Government maintained, at a rate of remuneration on which a decent clerk in an office would be supposed to starve, a Curator to take charge of collections to which the Society gave, free of all charges, room for exhibition and study, and also contributed the same small stipend to the support of a man of wide European reputation, and who had devoted a lifetime to the Natural History of the country. But contributions to the Society, for the objects of the Society proper, there have been none.

A sum of 6,000 Rs. per annum is now passed through the hands of the Society as Trustees for the publication and issue of the Bibliotheca Indica, a noble and invaluable series of the standard vernacular literature of the country; and one which well repays the limited outlay of 600£ a year. But the grant of this sum gives not one pice to the Society. It gives a very large amount of trouble, anxiety and responsibility, which are voluntarily borne by the Philological Committee and Council of the Society, rewarded only by the consciousness that they are doing good. But as I have said, not one fraction of this grant goes to the Society. The accounts are kept most strictly separate, as any one can satisfy himself by a mere reference to the accounts of the Society.

I refer also to this for another reason because I find in some Statistical returns of Educational and Scientific institutions recently issued by the Government of Bengal, the Asiatic Society is set down as possessed of an 'endowment' of 190 Rs. per year. Now the facts of this were fully explained to the compiler of the tables, and I cannot understand how with

these facts before him, this statement should have been allowed to go to the public. This so-called endowment, gentlemen, is the interest on a few thousand rupees which the Society itself has invested in the funds of the country, the result chiefly of accumulated entrance fees of its members. It is just as clearly a part of the ordinary income of the Society as is the subscription which I, as an ordinary member, am called upon to pay annually, and can be dealt with by the Council in exactly the same way. It would indeed be well for the Society if it had an endowment even of small limits. And we shall feel indebted to the author of the tables or any one else, if he will establish such an endowment. But when such does not exist, the statement of it is likely to lead to serious misapprehension of the position of the Society.

We rest, therefore, in the perfect confidence that the just and undoubted claim of the Society for remuneration for the heavy damages inflicted on the Society by the continued occupation of their premises and the consequent depreciation of their property,—in addition to the injury done by keeping the Society in a position in which it can hope for few additions to its numbers, and can offer but little advantages to its working members,—that this claim will be acknowledged without further demand, and that the Society will be freed from the heavy incubus under which it now rests.*

During the year, the Society has lost by death eight ordinary, one honorary and one corresponding member. Among these were some distinguished in the ranks of science, and long supporters of our Society.

The year had scarcely opened, when we were, in common with every well-wisher of the country, stunned by the fearfully sudden and awful death of the Viceroy, our Patron. It was not within the scope of the Asiatic Society's objects to discuss the many political questions which had more immediately engaged Lord Mayo's attention, but we could not fail to appreciate the earnest and thorough heartiness of Earl Mayo's character, or to feel profound regret at his being cut off in the very height of a successful career by the hands of an assassin.

Lord Northbrook, his successor, has been pleased to accept the office of Patron of the Society, left vacant by Lord Mayo's death.

* It is with the sincerest pleasure, that I am able to stop the printing off of these pages, and announce that the Government of India have, after careful consideration, acceded in full to the claims of the Society. This is peculiarly gratifying, to the Council of the Society, who have found themselves in the painful position of apparent opposition to the Government of the country, while, after the calmest and most unprejudiced consideration they could give to the subject, they found their convictions of the justice of their claims so strong that they were unable to retreat one single step. They feel, therefore, most thankful that any further difference of opinion has been thus removed.

In Dr. Jerdon, the Society has lost an old and well-tried friend and fellow-labourer. It is now more than thirty years since his 'Catalogue of the birds of the Peninsula' was published in the Madras Journal for 1839. And the numerous papers which he has since published in that Journal and in the Journal of our own Society shew that his interest in this subject had never ceased. His 'Illustrations of Indian Ornithology' was among the earliest attempts at proper coloured figures of Indian Birds. His labours may be said to have culminated in his well known and oft quoted 'Manual of the Birds of India,' followed by his 'Game Birds of India.' Even after he had retired from active service, and left the country, his first desire was to publish a supplement to this valuable work, which he largely succeeded in doing by a series of papers in the 'Ibis.' Indeed it is a proof of how entirely his heart was wrapped up in the subject, that he was talking with his friend, Drescher, of the 'Birds of India' until within a few hours of his decease, not conscious of the danger that was impending over him.

Nor did he, while thus devoting his attention chiefly to birds, neglect the other classes of Vertebrata. He had conceived the noble idea of furnishing students of Indian Natural History with monographs of each of these classes, which he accomplished so far as the Mammalia were concerned. Reptiles also had engaged his earnest attention for years, and were the subject of an active and extensive correspondence with Gray, with Cantor, and Blyth. Our Journal contains a catalogue of the Reptiles of the Peninsula of India, which shews how desirous he was to attain accuracy in his determinations, and since the publication of the Mammalia and Birds he had been most assiduously collecting Reptiles, and indeed the first portion of his monograph on the Reptiles of India was actually printed. I should notice also his very valuable catalogue of Fishes, in the Madras Journal, while in a different branch of Natural History entirely, his descriptive account of the Indian Ants is one of the best yet published. He had contributed to Benson and Blanford many shells described by those writers, while many entomologists in India can point with satisfaction to valued specimens of beetles and butterflies for which they had been indebted to Jerdon's liberality. To all this range of natural knowledge he added a wide acquaintance with Botany and the plants of India, especially the ferns.

Most of this work had been accomplished while Jerdon was in active service with his regiment, and dependent on his own resources for books, specimens, &c. for comparison. Gifted with remarkable powers of conversation, and with his memory richly stored with anecdotes of others, and observations of his own, he was a charming companion, while his untiring energy, and keen sense of personal enjoyment, were absolutely infectious.

Jerdon has left behind him an immense store of valuable notes, and of coloured sketches from life, which we hope and trust may still be utilized.

With less originality perhaps than either Blyth or Bryan Hodgson, he has yet done more than any other individual for the Natural History of India, by his valuable Manuals. And it is much to be wished that the series may be completed and brought up to date by some of his successors. Dr. Jerdon was an officer of the Madras army, and although in the course of his military service he had visited parts of Central India, it was not till late in his career that he had an opportunity of visiting and enjoying the glorious scenery of the Himalaya, which he did with a peculiar freshness and keenness of delight.

Sir Donald McLeod was one of the oldest members of the Society. He joined our ranks in 1837, more than the third of a century since, and since that, has been an undeviating friend and supporter of the Society, taking the liveliest interest in every step that marked its progress, or that tended to improve our knowledge of the peoples of this country and their history. He was not an active contributor to our Journal, but was always an earnest supporter of science, and an able and disinterested adviser on all points. Of unbounded hospitality, which was exercised with a simplicity of courteousness and thoughtful kindness, which led all to look to him as a friend, of the widest and purest sympathies, Sir Donald McLeod possessed the singular power of attaching to himself all with whom he came in contact; a power, which gave him a command over his fellow men, due rather to the influence of his individual character than to the grasp or power of his intellect. He was in fact a singularly loveable man, and will ever be remembered by those among whom he lived so long, and over whom he had exercised a benevolent sway for years, as a friend and benefactor. The Society will feel his loss as an earnest and enlightened promoter of sound education.

During the year we have also lost in Mr. C. Horne, C. S., a valued contributor of several Archæological papers to our Journal. He came to India at the age of 20 in 1843, and finally returned to England in 1869. He had been a member of this Society since 1863 up to the time of his death last year.

Colonel Sykes, whose connection with India dated almost from the very commencement of the century, had ever been an earnest cultivator of the Natural Sciences, and as Director of the East India Company a steady and warm supporter of every effort to promote the welfare of this empire. He had contributed to various journals many very excellent papers on the Geology, Ornithology and Meteorology of India.

From among our corresponding members, one name of high note has been removed by death. Theodore Goldstücker, who died in March 1872, at the early age of 51, was a native of Königsberg. He commenced the study of the Sanskrit under Professor von Bohlen, at an early age. He also studied the Hegelian philosophy under Rosenkranz. At Bonn, he continued his

studies under Schlegel and Lassen. His first publication was the Prabodha Chandrodaya, which appeared in 1842. He proceeded to Paris from Bonn and then became a pupil of Eugène Burnouf, and later he paid a short visit to England. In 1859 he was invited by Professor Wilson to come again to England and assist in the preparation of a new edition of his Sanskrit dictionary. He undertook the revision, but under his hands it became so vast an undertaking that only six fasciculi, containing the greater portion of the first letter, were published. A few years after his arrival in England, he was appointed Professor of Sanskrit at University College, London. In 1861, he published his essay on Pánini, as introductory to a facsimile edition of the Mánava Kalpa Sútra. He also carried through the press for the Indian Government a photo-lithographic facsimile of the Mahábháshya which is nearly complete.

Dr. Goldstücker was elected a corresponding member of this Society in 1863.

A general review of the work done by the Society during the year will I think show that there has been no diminution of zeal, no want of earnest and thoughtful work.

The issue of the BIBLIOTHECA INDICA, which the Society have voluntarily undertaken to edit on behalf of the Government which supplies the necessary funds, has, on the whole, progressed very satisfactorily. I feel bound to allude to this subject rather more pointedly than otherwise I should feel justified in doing, because during the year some critical remarks have issued from the pen of one at least of the ablest orientalists of Europe. Prof. Weber in a review of the labours of the Society in connection with the Bibliotheca Indica, as extending from 1865 to 1870, acknowledges in a hearty manner the judicious selection of works for publication, and fully admits that the several editors, principally native scholars, have truly performed all that could have been at all expected from them. In truth, Professor Weber speaks only in terms of praise and approval, of the works selected and the mode in which they have been edited. But his objections are based, I may say almost solely, on the delays which have occurred in the issue of successive parts or fasciculi of various works which extend over many pages. Now, no one can be more thoroughly alive to the force of this objection than the Philological Committee of the Society, under whose special charge these publications are. But I fear Professor Weber's experience of the conditions of literary work of this kind in Europe, and in the midst of the learned centres of literary activity, where he resides, scarcely enables him to realize the almost unspeakable difficulties which accompany the effort here. There is not among the long list of editors of our Bibliotheca, one single person who has not heavy and continuous official duties to perform which occupy by far the larger portion of his time, and which give none of that literary ease, so essential to

the satisfactory pursuit of such studies. Heavy critical work requiring constant thought, and much accuracy of comparison can in this country only be taken up, after the mind and after the body too are fatigued and jaded. And the wonder really is, that so much can be done as has been, not that more has not been accomplished. And further, the conditions of society here which lead to much more rapid changes than elsewhere, tend to retard, if not altogether to interfere with or interrupt, the progress of such editions. In many cases, the editors who have commenced the publication of works in this valuable series, have been carried off by illness, and new editors had to be sought out. In some cases owing to these causes, successive portions of the same work have been entrusted to the care of three and four different scholars. Every such change inevitably involves delay. Time is required to seek out a new editor; he must fully acquaint himself with what has been done and what he is to continue and so months, and even years, pass over before the work can be satisfactorily resumed. I know of one case in our experience in which with all possible anxiety to publish as quickly as possible one of the most valuable remains in Hindi, the negotiation for editing the work has extended over years and nothing definite is, I believe, yet adopted.

But further, owing to the necessary delay in the transmission of these fasciculi to places in Europe, Dr. Weber, in common with others, complains of the irregularity with which the fasciculi are received. This is a grievance under which we suffer in this country quite as much as European scholars can possibly do. The delays in the transmission of books are most vexatious and destructive to progress. But unquestionably these are not chargeable to the Society, for every care is taken to despatch as quickly as practicable the successive fasciculi.

Of the several works noticed as still incomplete the past twelve months have seen the conclusion of some. The Taittiríya Áranyaka, on which Babu Rájendralála Mitra has been engaged for the last seven or eight years has been completed, forming a volume in all of considerably more than 1000 pages! It is accompanied by a complete analysis of the work in English, and a valuable table of contents. The Gopatha Bráhmana has also been completed by the same editor after it had been in the hands of another scholar, whose death interrupted his labours. In this also, an introduction is given describing at length the nature, character, and contents of the work. Another work of high value completed during the year has been the Pratis'ákhya of the Black Yajur Veda. For this, the preparation of an analysis in English was considered unnecessary, as Professor Whitney had already published a translation.

The S'rauta Sútra of Láthyána has likewise been completed, and the learned Pundit who has edited it, gives promise of the Tándya Bráhmana of the Sáma Veda, which he has undertaken. It is hoped, with some confidence,

that the Atharvana Upanishad, and the Pingala Chhanda Sútra, will both be completed in the current year.

The fourth volume of the Sanhitá of the Black Yajur Veda, has also been completed, and the fifth is in hand. Of the eight books constituting the work, the three which now remain are short, and another volume will probably suffice to complete the whole. We are more disposed to feel gratified at having been able to advance this important work, so far as it has proceeded, under the difficulties attendant on its publication, than to be dissatisfied with the time occupied. The first book was edited by the late Dr. Roer, the second by Professor Cowell who then left this country, and the greater portion of the third by Pandit Ramanáryana Vidyáratna, and, on his death, it was taken up by the present editor, Professor Mahesachandra Náyaratna.

It will not be necessary to vindicate the Society from charges of delay and neglect with regard to its Arabic and Persian issues which are acknowledged to be progressing with favourable speed, and to contain the most valuable historical works known to exist. And the principle on which the Society has acted of confining their publications to works bearing on India meets full approbation.

In connection with these subjects, I would myself as one not having the slightest pretension to such a knowledge of oriental languages as would justify my offering an opinion on the style in which these various works have been issued, express the gratification which I feel at finding scholars like Professor Weber, admitting fully the value of the series, and acknowledging the ability with which they have been conducted. But I would go further and venture to urge on those learned scholars who are so actively engaged in these pursuits, and who have been for years earnestly and actively endeavouring to make known to the world the rich stores of literary wealth which this country offers for utilization, whether the publication of translations into English accompanied by notes illustrating from other sources the text of their authors, would not gain for them a far wider and more numerous audience, and would not tend to advance very importantly the knowledge of their authors by bringing to their illustration the varied acquirements of others.

As an instance of how much knowledge can be brought to bear upon a single text, of what a flood of light can be thrown upon a single phrase even, I would ask any one to study Yule's marvellous edition of Marco Polo, which though not issued within the year under review may serve as an instance of what one would desire to see done, in a very minor degree, towards the illustration of some of the great national works the text of which is given in the Bibliotheca Indica. I am not sanguine enough to hope that many, if indeed any, may be found who could bring to their subject such a varied range of reading, so large and almost unlimited a stock of acquired, and still more

wonderfully systematized, facts, such quaint and curious illustration derived from the most unexpected sources, and yet most aptly and charmingly brought to use. Nor can it be, that many will be found capable of conveying all this information with such a charming simplicity of language or with such a force and power of description, that fragmentary as the whole is, one is unable to lay down the book when once commenced. But much would undoubtedly be gained, while more information than can be obtained elsewhere would be made accessible to all.

In connection with this subject, I am myself aware that for many years our able Secretary Mr. Blochmann has been bringing together from every source opened up to him in the course of his extended study, a complete index to all geographical names mentioned in these oriental works. This 'Index Geographicus,' will be—if it ever see the light as we hope, and trust it will,—a glorious mine of knowledge charged with ore of the richest quality, and of the brightest and purest kind, and will really throw more light upon the changes, historical and political, dynastic and geographical, which have passed over this land, than any single collection that I can think of. Col. Yule has I rejoice to say undertaken to prepare for publication, and has far advanced in the work, a Manual of the Geography of India, which I have no doubt will contribute very largely to our acquaintance with the subject. He has indeed during the past year, given us a foretaste of the pleasure we are certain to derive from his labours, by a most masterly essay, introductory to the new edition of the travels of Captain Wood to the source of the Oxus. I would gladly dwell on this subject for a little. The district calls up every fanciful picture of Eden which may have joyed our childhood, and here we find all primeval tradition combining with all modern theory and knowledge, pointing out the cradle of our race, and the site of the Adamic Paradise, while its past history is interwoven with that of all the great Asiatic conquerors, and its coming history 'looms on the horizon rife with all the possibilities suggested by its position on the rapidly narrowing border-land between two great empires, one of them our own.'

But the wide range of the subject, and the value of Col. Yule's exhaustive interpretation of all available evidence bearing on it, would take up far more time than can now be spared. I would, however, commend this essay 'On the geography and history of the regions in the upper waters of the Oxus,' to every one who takes an interest in the early history of the country and of the many changes which have passed over it.

In connection with these publications of the Society and others, we may perhaps take a glance at some other publications bearing on the Archæology of India. The Journal of the Society for the past year will be found rich in such information. We have descriptions of the antiquities of Barantpúr, Bindrabun, Gokul, Benares, Jaunpúr, Bengal and parts of Orissa. And

before all others, the masterly account of Bihar by Mr. Broadley, containing a mass of accurate description and information, the result of most zealously conducted researches and excavations. During the year also we have had the reports of General Cunningham, the Archæological Surveyor, detailing his researches during the seasons of 1862 to 1865 and affording a rich treasure of historical and other information regarding the districts visited, Behar, Gya, Tirhoot, &c., with a full discussion of the accounts of Fa Hian and Hwen Thsang. The second year was devoted to Delhi, Mathura, Kanauj, Allahabad, Ajudhya, &c. The third year's report takes up the Punjab and its ethnology and antiquities, while the fourth discusses the history of Jaipur, Ajmere, Gwalior, &c. A portion of these reports originally appeared in the Journal of this Society, but without the many and valuable illustrative plans and drawings which now accompany them. The work, in two goodly-sized volumes of more than 500 pages each, forms a convincing proof of the justice and wisdom of Lord Canning in first appointing General Cunningham to this task, and shews too what an almost exhaustless supply of valuable information bearing on the history, the architecture, the dynastic divisions and the geographical features of the country yet remains to be worked out. There is no question that many of the views put forth will be subject to modification and change as knowledge increases or more extended research is made. But this is the case in every such enquiry and in no way detracts from the value of these interesting reports.

Another work published, or at least received in India, during the year treats of another and very interesting part of the archæology of the country. The rites of sepulture, the curiously varied and complicated ceremonies observed by some people, and the simpler ritual which marks the proceedings of others give a special interest to all remains of the ruder monuments which in many countries mark the localities where the great dead have been interred, or their ashes entombed. Mr. Ferguson, to whom Indian archæology is so largely indebted, has given us a very full and satisfactory account of these rude stone monuments in all countries and among others in India. The portion of his work bearing on India, is by no means so full or satisfactory as other parts. But seriously deficient as it is, it gives an approximation to the state of knowledge on the subject, which will be of vast use. Indeed the real value of all such general treatises consists in this, that they indicate the boundary between the known and the unknown, and enable students to start from the advanced posts of existing knowledge without wasting time in preliminary investigation, or going over ground which had been fairly examined before; and in this point of view, such works as Ferguson's are of high value. But the very facility which they give ought to lead to early refutation or confirmation of their statements. Such sweeping assertions as that these rude stone monuments do not exist in the valley of the Ganges or any of its tribu-

taries, could be so readily disproved, (and indeed it has been) that there is no excuse for allowing it to remain before the world as a statement of facts. But I would hope for much more than this, and ask every one who has an opportunity of seeing such monuments to figure them and give a careful description of them, so that not only their mere existence, but all their peculiarities may be known.

Another work on Indian Ethnology and the habits and customs of the races inhabiting Bengal as the province is known now, which appeared during the year, is the splendid volume of Dalton's descriptive Ethnology. This was brought out at the cost of the Bengal Government, under the immediate supervision of the Council of this Society, and it is certainly one of the most admirably illustrated, as well as printed, books yet issued from Calcutta presses. But it has higher claims on attention than the mere get-up of the book. Col. Dalton has here given not only the information which he was able to obtain from others, but has told us in plain nervous language, and with a keen appreciation of humour throughout, his own experience with the wild tribes and peoples among whom his long service in India has almost exclusively been passed, and who have learned to know him so well, and knowing him to trust him so implicitly, that they who would flee in terror from other white faces come to him as an intimate friend and play with him as a loving child would with a revered parent. Indeed one of the great charms of the book is the insight you get into the true basis of those relationships of intercourse and friendship which have existed for years between the writer and 'his children.'

Descriptions ranging over such a wide circle of races could not be anticipated to be equally detailed or equally accurate in all. But if blemishes occur I hesitate not to say that those who read Col. Dalton's descriptions will rise from their perusal with enlarged information, and with matured sympathies. I would even suggest to the author whether he would not think of publishing a smaller and cheaper edition, taking advantage of any additional information which may have cropped up since, and using fewer illustrations thus rendering the work accessible to a much larger circle of readers. I must add that great credit is due to the Government of Bengal for the liberality with which it has enabled so nobly illustrated a volume in the ethnology of its provinces to be published.

In addition to the truly valuable series of descriptive papers on the antiquities and history of various places in India, we have in the Journal for the past year some curious coins illustrated, and notably a fine series of inscriptions of various dates, from some nearly five centuries old, down to last century and many throwing rich light on historical facts. It is hoped that this valuable series of the inscriptions may be continued, for General Cunningham has placed in our Secretary's hand, for decipherment and publication,

all his unequalled collection of these records. It may be noticed as a curious illustration of the value of such, even when apparently so placed that they must be tolerably known, that an inscription, which records a king in Bengal hitherto entirely unknown, was brought from the well known town of Kalnah on the Hooghly, where it must have been seen by thousands of visitors, none of whom ever thought of deciphering or taking a rubbing of the inscription! A rich store of facts, both historical and chronological, will doubtless be opened up by the careful examination of such inscriptions, and in no one's hands could the task have been placed with higher prospects of success than in those of Mr. Blochmann.

Under the garb of a small School Manual published by the School Book Society, Mr. Blochmann has also given to the public one of the best and most complete Manuals of the Geography and geographical statistics of India, which has yet appeared. The information is derived from the most recent sources, and is not a mere reprint or compilation of the obsolete statements of Thornton and others, and in the small space of a little pocket volume, it contains an immense amount of condensed information bearing on the area, position, population, antiquities, history and general relations of all the divisions of the country.

If we turn our attention now to the division of our sciences represented by the second part of the Journal, I am justly able to congratulate the Society on a most fruitful and successful year. Dr. Day has continued his admirable Catalogue of the Indian Cyprinidæ, of which this year has given us three fasciculi. He has also described the fish collected in Kach'h by Dr. Stoliczka and discussed the relation of some of the genera of the Siluroid group.

The Mollusca of India have been illustrated by an excellent monograph of the Indian Clausiliæ by Mr. W. Blanford and Dr. Stoliczka. The land shells of Penang, and of Burma and Arrakan, have been well illustrated and described.

Dr. Dobson has continued his able and careful researches on the Bats of India and adjoining countries, describing several new and most important forms. I greatly wish we could hope to see from Dr. Dobson's accurate pen, a well illustrated monograph of Indian Bats. He must have already brought together nearly all the facts requisite for such a detailed catalogue, and the needful illustrations could readily be obtained in this country. I have no doubt that such a work would at once meet with all the support requisite to secure its success. There is a vast amount of information bearing on the Natural History of India already published, but published in such a scattered way, single papers here and there, in different journals and in different languages, that ordinary students, under the conditions of Indian life, have

no possible means of knowing what has has been done, or what is already well known. Hence the supreme value of such monographs, compiled by those who have made a special study of the different groups and brought their knowledge up to date. No question such monographs would very rapidly require additions and call for alterations. Indeed this is the very result which would be sought by their publication, the bringing in new facts and exciting wider attention to the investigation. But this would not detract from their value, as statements of knowledge acquired up to a certain date, and as affording a safe and carefully determined point of departure, from which future enquirers might start on their voyage of discovery.

The contributions of our able Secretary, Dr. Stoliczka, are valuable as usual. Besides his molluscan papers to which I have just alluded, we have a remarkably interesting and valuable paper on the Mammals and Birds inhabiting Kutch,—an admirable type of what the study of local faunæ is capable of yielding. He has also given some valuable notes on new or little known Lizards, and on Indian Batrachia; these papers on Kutch reptiles and Sind reptiles are sufficiently illustrated, and together constitute a range of additions to our knowledge of the Natural History of the country of the highest value and greatest scientific importance.

Ornithology has added to its store in the papers by Mr. Brookes on the Birds of Cashmir, and his brief notes on the Eagles, and Swans, &c. Mr. Hume has given a short critical notice of some Burmese birds; Major Godwin-Austen a third list of birds found in the Kasia and Garo hills, while Mr. W. Blanford has described and beautifully illustrated the birds of Sikkim. He has also given in the Journal the last part of a very interesting and charming account of his trip to the borders of Thibet in the Sikkim country, devoted entirely to the geological portion of his enquiries.

But while this summary will give sufficient evidence that the study of Natural History has lost none of its absorbing interest, and that the Asiatic Society of Bengal has fully and nobly maintained its grand traditional position as the repository of most of the advances made in these enquiries in this country, we can also congratulate you, gentlemen, that activity has been shown in other directions also, and outside our ranks. There is at last a fair prospect of the 'Flora Indica,' commenced many years since by Drs. Hooker and Thomson, being carried out under Dr. Hooker's guidance, and we are delighted to welcome it as a great, and at the same time necessary, contribution to our means of progress. The 'Flora Sylvatica' of Beddome also progresses soundly: the 'Conchologica Indica' of Hanley and Theobald, a work which, with all its very serious shortcomings, will be of great utility and value—still finds support and appears with regularity, while during the year we have had to welcome a new candidate for this support in an Indian magazine devoted to Ornithology. We could have wished that the author had completed the

several works which he had already commenced, rather than started a new publication. But we heartily welcome at the same time the issue of 'Stray Feathers.' It promises to be a useful catalogue of the Editor's very noble collection of Indian Birds, and a means of rapid publication of novelties or corrections, always of much value with ornithologists.

During the year also a very admirably illustrated work on the deadly Snakes of India has been issued at the cost of Government. The beautiful plates which are given with Dr. Fayrer's treatise on the Thanatophidia must always command attention and recommend the work, while unfortunately they also add so very seriously to the cost of the book as entirely to preclude the chance of its ever getting into the hands of any but the wealthy. The work too does not pretend to be more than a practical statement of facts concerning these dangerous enemies to human existence in the country. It has no scientific novelties or discoveries to render it important as a work of reference in libraries, while as we have said it is locked up from the general public to whom it might be useful by the extreme cost. Could not all the information be given in a far more accessible form and at a very trifling cost ?

Other matters of high interest have been brought before the public, though not immediately through the Society. One of the most important and probably fruitful discoveries of modern years in Physiology has appeared in the modest form of an appendix to the eighth report of the Sanitary Commissioner with the Government of India. This is the discovery by Dr. Lewis of a Hæmatozoon, inhabiting the human blood, and certainly accompanying, and in all probability causing, peculiar conditions of the secretions, frequently rapidly fatal and always exceedingly injurious to health. This is scarcely the place to discuss the details of such a discovery which, bringing into notice a diseased condition hitherto totally unknown, and in all probability opening the road to further discoveries regarding obscure diseases, especially affecting countries situated as we here are within the tropics, opens up an entirely new but most important enquiry.

The careful researches of Dr. Lewis associated with his able colleague Dr. Cunningham into the history and concomitant conditions of choleraic affections, must be well known to most of our members. And I have no hesitation in saying that the last contribution of these gentlemen published in the same report I have alluded to, adds largely to the mass of *facts*, bearing on this, to India, all important subject. The accuracy with which every appearance is sifted, and the evidence investigated, before it be admitted as a fact, and the fulness of the information sought and obtained, will render the entire series of these admirably conceived and executed microscopical enquiries, altogether essential to the study of this malignant

disease, the cause of which is still so obscure and unknown. And I would add also, will form a very excellent contrast to the carelessly arranged and hastily admitted, or even distorted, evidence, which has more than once been adduced in support of some favourite hypothesis as to the mode of propagation of this disease.

Dr. Lewis has also given the results of a careful investigation of the condition of cysted meat, such as is frequently to be met within the bazar. And perhaps it may comfort many, who may have been alarmed by ideas of disease to be communicated by eating such food, to know that he has conclusively shewn that such living organisms are entirely killed, if the meat containing them, be subjected for even five minutes to a temperature of no less than 145° Faht. Rarely indeed are human beings found so cannibal in their tastes, that their cooked food has not been subjected to this condition of temperature, and therefore rarely indeed can there be any fears of such diseased condition of the tissues being conveyed into our system. It is also a gratifying result of Dr. Lewis's enquiry, to notice the very rare occurrence of diseased meat of this kind, among the rations provided for our troops in this country.

Though special in their application I cannot avoid bringing to your notice the extremely valuable series of volumes, prepared by my friend and colleague in the Geological Survey, Dr. Stoliczka, descriptive of the cretaceous fossils of South India. These volumes form an invaluable record descriptive of one of the finest and most extensive collections from a single formation and a single district, which has ever been brought together, and have been prepared with a fulness of illustration and a widely embracing accuracy of description which render them essential to the Palæontologist, and almost equally essential to the recent Conchologist. We desire to acknowledge the liberality with which the Government of the country has provided the funds necessary to enable us to double the quantity issued in the year of this series descriptive of Indian Fossils, and we rejoice the more in this, because we read it as a convincing testimony that the loving labours of my colleague, Stoliczka, are really appreciated. I who can speak from experience of his unfailing energy, of his untiring research and marked accuracy, and of his wide range of knowledge of all the bearings of his subject, know full well the immense labour which these works represent, the high scientific value of that labour, and the great interest which they have excited among the Palæontologists of Europe. But more than all this I know too, and appreciate fully, the unswerving loyalty to his task, which the author has invariably shewn, and the undeviating conscientiousness and devotion which he has brought to bear on its accomplishment. Not only do we feel the high claims that Dr. Stoliczka has to rank among the very first of living molluscan Palæontologists, but personally I would testify also to the claims

which he has established to be viewed as one of our very best friends and advisers, as well our ablest colleague. We have been making great efforts to complete the entire series of these cretaceous fossils which will form four very large volumes, convinced that they will be the very best proof of the ability of the author that can be submitted to the world of science at Vienna, as well as the noblest monument of his zeal and power.

As speaking of the labour of the Geological survey I may here notice that we have been rewarded during the past year by one of the most important discoveries which stratigraphical palæontology has made for several years. Dr. Waagen, whom ill-health has, I am sorry to say, driven to Europe again, has found true Ammonites in beds which from their other fossil contents will be unhesitatingly admitted as palæozoic. There may be some slight question as to the exact horizon in the carboniferous series which these beds hold, or whether they may not to some extent represent the border land between the carboniferous and permian, but *Athyris Roissyri*, *A. subtilita*, *Producta costata*, &c. are species which will be at once admitted as carboniferous and these are the associates of the Ammonites. I had taken advantage of Dr. Waagen's wide knowledge of fossils and of their distribution in establishing a careful research into the stratigraphical relationships of the curiously distorted, and faulted rocks of the Salt-Range in the Panjab, from which some very interesting fossils had already been described by Koninck, Davidson, &c. and it was while so engaged that he was rewarded by this most important discovery. It would be passing into discussions rather too technical perhaps to enter here upon any consideration of how far this discovery is consistent with views based on the developmental theories now generally admitted in the explanation of the several homologies in such series as those acknowledged in the Cephalopoda. It will suffice to state that the fact of the occurrence of a true Ammonite in unquestionably palæozoic rocks is one calculated to excite as much surprise as did the announcement many years since of the beautiful Ammonites (with Orthoceratites) found in the Triassic beds of Europe. The curious fossil, with some other of its associates, has been figured in the Memoirs of the Geological Survey of India.

Viewed therefore as a whole, the year 1872 has not been unfruitful in natural history progress and a fair general activity in such pursuits has marked our Indian labours.

Among the questions of cosmical interest which have excited the attention of the scientific world lately, none is of higher or wider importance than the transit of the Planet Venus across the disc of the sun, which is to take place in 1874. For five years past, the attention of astronomers has been earnestly directed to preparation for the observations required. And every Government and people, deserving to be called enlightened, has aided in these combined operations.

The last transit of Venus took place in 1769, more than a century since; and it needs but little consideration of the immense improvements which have been made in the accuracy of construction of astronomical instruments, in the preparation of telescopes, and above all in the marvellously beautiful application of photography in self-recording instruments for such transient phenomena, to see that there is not only a well founded hope, but a certainty, that the determination of the elements of the vast calculations to be based on the phenomena will be far more careful and more accurate than before. Fortunately also, another transit will recur within a short interval or in 1882, and with the experience gained in 1874 and the extension of points of observation contemplated for 1882, we may I think confidently look forward to seeing that all-important determination of the distance of the earth from the sun established with extreme accuracy. On this, as is well known, depend all the dimensions of the solar system. The British Government have undertaken the provision of instruments and observers for five stations. These are selected with a special view to their value, as enabling the best observations to be carried on. These five stations are, Oahu in the Sandwich Isles, Kerguelen Island in the Indian Ocean, Rodriguez a dependency of Mauritius, Auckland in New Zealand and Alexandria. Of the three first in the list, the longitude is to be determined accurately by a whole year's series of observations. Further, owing to the distance, the parties of observers must leave England more than six months before the time of transit. Instruments alone will cost considerably more than £10,000, conveyance, pay, sustenance as much more. This may seem a large sum, but as compared with the object in view, it is as nothing. The acquisition of knowledge of so much importance to all civilized nations, and the seizing on an opportunity of rare occurrence for fixing some of the most important astronomical and cosmical questions alone would have justified, nay would have demanded, the outlay of almost any sum. And I have no reason to doubt, that the answer to the suggestion to carry out this most important observation in a fitting manner from the head of the Treasury in Great Britain would have been precisely the same, 'they have no objection to offer to the expenditure, were the sum required ten times what it is.'

In addition to the stations thus specially selected, the observatories of Melbourne, and Sydney, of the Cape of Good Hope, Madras and Bombay, will all be utilized. The whole sea board of the United States of America, and the Canadian localities will all be favourably situated for certain observations and we may safely trust that the well known energy and zeal of our American brethren will not fail them here. To supplement the observations in the southern Hemisphere, by others in the northern, we must look to the Russians who have in their widely spread territories many localities admirably adapted for such observations. For one special class of observations

indeed, observations of the egress of the planet as retarded by parallax, these localities will be essential. But the well known skill of the Russian astronomers leads to the most implicit confidence that no portion of the required observations will be omitted in their hands. Such, gentlemen, are a few of the preparations which have been in progress for the observation of this rare phenomenon. And I am happy in now being able to announce to you that the Government of India have, on representations made to them of the value of a series of observations especially photographic in the clearer atmosphere of some high elevation in North India, at once sanctioned the necessary expenditure for instruments, and have telegraphed for their immediate preparation.

In connection with this, the General Committee of the British Association at their meeting in 1872, August last, requested the Council to take such steps as seemed desirable to urge the Indian Government to prepare these instruments, with the view of assisting in the Transit of Venus in 1874. And they added,—and to this I would ask your special attention—"and for the continuation of solar observations in India."

It may perhaps appear to some that we have quite enough experience of solar effects in this country without establishing an observatory for the special study of such facts. The intimate connection of what we speak of as the weather with changes on the solar surface, the remarkable statements lately put forth apparently with good ground, that the cyclones of the Indian Ocean and its more southerly extensions are also connected with these changes, and the bold assertion of a belief, by Mr. Maury, whose opportunities for observation have been unequalled, that he is fully convinced that changes in the seasons can be foretold with the aid of a properly conducted and sufficiently wide system of observations, all these facts tend to show the vast interests involved and the high importance which naturally attaches to such observations. And we cannot but express an ardent hope, that it may commend itself to the Government of this country to maintain and render permanent the small establishment about to be fixed on some elevated spot for the observation of the transit of Venus, and so form one observatory to be maintained for a special object and with a view to a continuous and sustained system of observations of those peculiar phenomena.

Col. Tennant, in submitting a brief statement of the advantages of such an observatory, has very justly insisted earnestly on the vast importance of determining beforehand the nature of the work to be done, and of carefully adhering to this system when once established. He pointedly refers to the glorious result of such a rigid adhesion to one object of work in the observatory of Greenwich, established with a special view to perfecting the art of navigation. Since the days of Charles the Second, the efforts of the astronomers of Greenwich have been without cessation devoted to building up what

Le Verrier has called that 'prodigious series of observations,' which may be *taken* as the fundamental bases of the theory of the moon. For now all but two hundred years have their efforts been devoted to increase and to preserve *these* glorious records. And the practically beneficent result to all civilized nations, and more especially to those much interested in navigation, have *been* almost incalculable.

I notice this point more prominently because I am thoroughly satisfied from experience now of many years in this country, that one of the great causes of the comparative failure of many well devised and for a time well carried out schemes of enquiry and observation has been this want of a maintenance of an established system fully thought out in the first instance and modified only so far as to improve and extend, without material alteration. This is unfortunately true of almost every department in this country. The agency is constantly changing and each successive occupant of a post thinks it incumbent on him to signalize his reign by some change, all the better if marked and defined. Another may succeed, and a certain amount of reversion to old systems be again introduced. But meanwhile half the value of the accumulated knowledge is gone, because it is not as it were referable to the same standard. This curious absence of any want of faith in the traditional systems of operation which is to a large extent due to the rapid changes in the controlling elements in this country, and to the absence of those permanent officers, which in England are the mainspring of the machinery, and maintain the works in steady operation, men who in the great offices at home are in reality those who keep the Government of the country going, forms a remarkable contrast to the perfection with which the mere paper records of former Governments are kept, records which however are with exceeding rarity, if ever, examined by new incumbents, until some difficult question be raised.

But if a well designed system be once established with reference to such solar observations, and such studies of the motions of the satellites as Col. Tennant proposes, there can be very little doubt, that most valuable results will arise from a sustained systematic observation, which could never be expected from desultory action and interrupted system.

And looking to the immense gain which would result from such an observatory being at considerable elevation, above the mist and clouds which encumber the lower strata of the atmosphere in these countries there can be but little doubt that those results will be clearer and less obscure than could be the case at any lower elevation.

It is hoped that the establishment of such an observatory might be made the means of instruction to many in practical astronomy, means at present entirely wanting in this country. That the people of this land can investigate such subjects with much success is well shown by the care and

accuracy with which eclipses are calculated, while the visitor to Delhi or Benares will not have failed to be struck and deeply struck with the noble remains of the observatories of old, and will have dwelt with grief on the decay of knowledge since the days when such wondrous erections were not considered too costly or extensive for astronomical observations. Indeed it would seem that the maintenance of such observatories is one of those things which commend themselves to the wealthier natives of this land. And if trained observers, accustomed to work with the improved instruments of modern days, were available, I think we would be justified in anticipating that in many places such would be utilized; and their results, guided into proper channels by advice and system, would prove most valuable adjuncts to any general system of investigation. It is certain, that the establishment of such an observatory does hold out hopes of a successful teaching of astronomy which have long been sought, but have never existed in this country.

Another noble undertaking on the part of the British Government, in which Indian naturalists and geographers are deeply interested, is the expedition of H. M. S. 'Challenger' for a three or four years' cruise, with a view to the investigation, by dredgings and other means, of the physical history of the bottom of the sea, its currents, its temperature, its depth. Looking to the wonderful results obtained by a similar expedition under the guidance of the veteran Agassiz round the south coast of America we are justified in anticipating for the well organized and fully equipped expedition of the Challenger results of the very highest importance to Natural History, to geology, and to physics. And we doubt not that these hopes will be fully verified. But we, in India, are especially interested in this expedition, inasmuch as we are, as it appears to me, bound to make every effort to supplement the researches of the Challenger, by similar investigations within our own waters. The Indian seas are not included, indeed have been excluded from the route adopted for the Challenger, and unless Indian naturalists can obtain the required information in other ways, there is no hope of obtaining it at all. A Committee of our Society has been organized for the purpose, as you are already aware; the necessary funds for the purchase of instruments have been granted, and these instruments are in progress; and it now only wants that a ship suited for the purpose may be placed at the disposal of the Committee, so that the work may be carried out. The ground to be examined is almost a virgin soil. There have not, that I am aware of, ever been any dredgings worth notice round our shores; and even the recent littoral conchology of the Indian seas is very slightly known. An immense area of country is now formed of rocks of comparatively very recent formation round the coast of India, and it is simply impossible that the study of their rich molluscan fauna can ever be carried out effectively until the recent and living molluscs of the existing ocean are better known.

It may probably interest some who have not followed out the preparation for these researches to mention briefly what has been done. The 'Challenger' is a steam ship of nearly 1,500 tons burden. Her warlike armaments are removed as she is going essentially on a mission of peace. She carries no less than 600 gallons of alcohol, and 120,000 fathoms of line for soundings, with an ample supply of tubes and cups and vessels, all specially designed for bringing up the sand, mud, shells, &c. from the bottom of the ocean. A whole armoury of thermometers and other instruments, dredges, harpoons, cages for animals, Wardian cases for plants, &c., &c., accompany. In addition to the officers who have all been selected for their special acquirements and who will carry on a complete series of magnetic observations, there is Dr. Thomson who is at the head of the scientific part of the expedition; Mr. Moseley and Dr. Von Seeben as naturalists; Mr. Buchanan as chemist; Mr. Wild, as artist, and a skilled photographer from the Royal Engineers. The route is to be to Gibraltar and Madeira, thence across the Atlantic to Bermuda, east again to the Azores and Canaries; west to Brazil, Trinidad, and then to the Cape of Good Hope. Thence she will proceed to Kerguelen Island, then to the Antartic ice regions, to Australia, New Zealand: then she will visit the Coral Islands, New Guinea, Torres Straits, Manilla and Japan. From Japan to Vancouver's Island and thence to Valparaiso, the Magellan Straits, Rio Janeiro, and England, where she is expected to arrive in 1876.

Surely if such an undertaking can be accomplished in England, the great Government of India can carry out the comparatively petty labours which would be the lot of naturalists working up and down in Indian waters.

Great pressure of other work, and I regret to say impaired health, have prevented my doing more than give you a very brief notice of some of the labours which have engaged the attention of the scientific world in India during the past year. I must ask your indulgence for its many shortcomings, and now conclude by thanking you very heartily for the kindly and ready support I have during the year invariably received from the members of the Society, and by wishing that the coming season may find the Society more prosperous and more successful. Experience of the past leaves no doubt as to the activity of its supporters in their various lines of research. We have only to trust that the needful funds may be available to enable their researches to be brought properly before the public.