This article consists of an interesting lecture upon Indian Music delivered early in the present year at Leek, in Staffordshire, by Mr. Maneckshaw B. Doctor, of Bombay, who lately left England after a year's visit to this country. Mr. Thomas Wardle presided, and a large audience assembled at the Nicholson Institute to hear the lecture. Mr. M. D. Doctor illustrated his subject by singing, and playing, on an instrument of his own, several Indian melodies, in some cases with piano accompaniment. After a few preliminary words, he gave his lecture as follows:

In this country, and indeed all over Europe, I find that the science of music is taught, cultivated, and practised universally. There are here academies and schools of music magnificently endowed and well-conducted, where one from his very childhood may receive a thorough musical education along with other studies. Every home, every family, has some musical talent. Music, in short, like nearly every other fine art, though cradled in the East, has attained manhood in the West, and perfection in Europe, where it may be said to have caused a social revolution. While such are the conditions of the art of music in the West, quite the reverse is the case in India. Indian music has a science of its own; the system on which it is based is more complete and elaborate than what one might on slight acquaintance think, and we have the authority of Sir William Jones and other eminent European students of that music, to assume that, as regards melodies, the Indian is even sweeter, softer, and more plaintive than the European music. But, unfortunately, our music has
become an enfeebled art. It has fallen into the hands of those who could not cultivate it, and is surrounded by the most lamentable associations; so much so that a musician by profession is in India very much looked down upon, and consequently the teaching and practice of Indian music in families, schools, &c., is almost unknown amongst us. Thus this divine art, this art which is more associated with the highest emotions of human beings than any other, although once known in all its pristine beauty in India, and that from times immemorial, instead of improving with age, has very nearly become a lost art to the people of that country. Coming from a country where the state of musical education is so low, I cannot arrogate to myself the task of instructing a European audience by a lecture on this subject; and, therefore, after requesting you to be indulgent towards my shortcomings, I shall venture only to say a few words in regard to the system of Indian music, and if by doing so I succeed in dispelling some misunderstanding and doubt which at present seem to me to exist amongst Europeans as regards the character and style of the music of India, I shall consider myself fortunate in having done some little service to the cause of that music. I shall begin my lecture by drawing a short comparison between the European and the Indian systems.

Indian music is, generally speaking, condemned by European critics as monotonous. It is said to be devoid of that majestic solemnity which characterises European music, and not to possess any merit whatsoever as a science. These are, in my humble opinion, and from what little I know of both the systems of music, mistaken ideas and formed simply from a superficial knowledge of the system of Indian music. Of course, I would not be understood to say that our music is perfect. Defects it has, which I shall presently point out; but I may say, without any fear of contradiction, that Indian music, properly treated and pruned of these defects, cannot fail to be as pleasing and as harmonious as the music of the western world, even to the educated ears of Europeans.

To continue the comparison, I may at once say that Indian music is throughout similar in its arrangement to European music. Both the systems are based on similar principles, they have the same scales, and almost the same notes. Many songs and melodies in the one very much resemble those in the other, when sung or performed on musical instruments. Indian music has the
diatonic and the chromatic scales arranged exactly in the same manner as in European music, and it has almost the same, and even a more elaborate system of time. Thus the two systems are very much alike. The Indian system and the European, however, have each a few characteristics which are not common to both, and when I stated that the Indian system was not without defects, I partly alluded to its not having that beautiful system of harmony which characterises European music, and which makes the latter so grand, so majestic, and so free from monotony. Indian music has no such harmonic accompaniments to its various melodies. These melodies are very sweet and plaintive, and of an originality pleasing beyond description, as is admitted in their various writings by the late Mount-stuart Elphinstone, Sir W. Wolsely, Sir W. Jones, &c. But all our melodies are sung or played in unison, and the instruments following the singers play them on the same notes and the same octaves. It is this very grave defect in Indian music that makes it ungrateful to European ears, and on this account, I think, it is condemned by them as monotonous. But Indian music is capable of being harmonised on the same principles as European music, and if that is done I am sure it will make itself more acceptable to European ears than it at present is.

Another defect in the system of Indian music is the want of a proper system of notation. Some modern Indian writers on music say that in the old Sanscrit and other records such a system of notation has been laid down. I have come across one or two of these systems, but I must at once confess that they are very imperfect in comparison with the elaborate and fine European system of notation; and it is, I think, owing to this great defect that Indian music is not only backward in its progress, remaining up to this time almost in its primitive state, but also that it has, as I have said above, degenerated and fallen into unworthy hands. Having no system of notation, one has to learn it simply by the ear, and whatever is acquired in that way may be remembered or not, as one's memory is retentive or the reverse. It is also owing to this defect that it has not been harmonised, and in my opinion the only way to improve it in that direction is to adopt the European system of notation.

Having pointed out these defects in the system of Indian music, and thus laid down the principal points in which it differs from the European, I may now mention that our system possesses some very excellent features,
which do not belong to the European system. The first and foremost of these is the system of ready-made melodies, based on scientific principles, according to their effects and influences at stated times of the day and seasons of the year. These are called the rāgs and rāgnis, or divisions and sub-divisions of music. The second distinctive feature of Indian music is the use of quarter notes in the formation of some of these “rāgs” and “rāgnis,” and I shall explain as briefly as I possibly can these distinctive features, as also the general system of Indian music in detail.

I have stated that the Indian system has scales and notations exactly similar to those of the European system. The diatonic scale of Europe contains, as you are aware, seven notes or tones, five of which are whole tones, the remaining two being half or semi-tones. The Indian system has the same scale, and contains the same number of notes, and these notes have exactly the same value and the same length. According to the tonic sol-fa system these notes are represented thus:

\[
\begin{array}{cccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7 \\
do & re & mi & fa & sol & la & si \\
\end{array}
\]

In the Indian system they are called rishab, gandhār, madhām, pacham, dhaivat, nikhad, or in an abbreviated form they are named sā, rē, ga, ma, dha, pa, ni. In the European system the third note mi or E and the seventh note si or B are semi-tones. In the same manner the third note and the seventh note in the Indian system are semi-tones.

In the chromatic scale likewise both the systems of music have the same number of notes, and these notes again have exactly the same value, and are the same in length. The chromatic scale, as you are aware, proceeds by semi-tones, and we find that it contains twelve semi-tones. The Indian system has exactly the same number of semi-tones. It has sharps and flats of the same length and value, which are called the tivra, and the komal, notes. The meaning of the word tivra being “sharp” or “pointed,” and that of komal being flat or soft. But besides these two scales, Indian music has a third scale, which contains quarter notes in its composition. The scale with the quarter notes included in it is called the enharmonic scale, and in addition to the quarter notes the scales in Indian music are said to possess notes even more minute in their proportions.
Thus a complete scale of Indian music, according to old writers, possesses in all 55 notes, consisting of tones, semi, and quarter tones, and these still more minute notes. The human voice is capable, according to Indian writers on music, of being raised up to a third octave, and they have gone so far as to distinguish by particular names each tone, semi- and quarter-tone, and the smaller divisions. These names accordingly are as many as 165, but I shall not tire you by repeating them here. I will conclude my remarks on this portion of my lecture, by saying that the system of scales and notes in Indian music is not only exactly similar to the European, as far as the latter goes, but it is even more elaborate; and the use of the quarter notes especially is, no doubt, one of its distinctive features, which is not found in the European system of music. Such eminent persons as Sir W. Jones and Mr. Paterson, of the Bengal Civil Service, have written on this point several essays and treatises. The quarter notes are not easily discernable in singing, but they can be pointed out on an Indian instrument, and I may state that these quarter notes are generally used by composers of Indian music in melodies intended to be soft and plaintive, and to be performed at certain quiet hours of the day, melodies calculated to create a soft and soothing influence on their hearers.

Having remarked on the system of scales and notes, I shall next describe to you as briefly as possible our system of Time. European music has several kinds of time. It has its simple and compound, its common and triple times. The time is indicated by numbers, as $\frac{1}{2}$, $\frac{3}{4}$, $\frac{3}{8}$, $\frac{5}{8}$, &c., &c.

As I have already said, Indian music has no system of notation; its time also is not written down. It has, nevertheless, a system of time very similar to that of the European system, but I think much more elaborate. To master that system and perform according to it is a task in itself. It is called the system of Tāl, or "keeping time." This system is not only of service as a guide to the singer, but it is performed on an instrument called the Tabla, or Pakahawaj, which is very much like a drum. It is played with the fingers and both hands, as an accompaniment to singing or playing. Each Tāl, or species of time, has its fixed number of beats; each of the beats has a regularly registered sound, and all these sounds have to be learnt by the ear and produced on the Tabla, or drum aforesaid. The time is counted also by beats of the hands. There are many varieties of such Tāls, and each has a name given to it.
according to the number of beats it contains, or according to the sounds that are produced in its performance on the drum. I will here name a few of these Tāls, and try to explain them. The first Tāl is three beat time. [Here Mr. Manekshaw D. Doctor performed on the Tabla, and he illustrated the various Tāls in turn on that drum-like instrument.] The beats appertaining to it are three. They are of equal duration. To indicate that the bar is finished, there is a space of equal duration. I may here mention that each of these Tāls has a special rest, and the singer or player must regulate his singing or playing, and the variations thereof, in such a way that in coming back to the original theme of his song or piece, the same words or notes with which he had commenced should fall in with the particular beat assigned in the Tāl to the “rest.” Another Tāl has four beats; one of its names, I believe, is a fanciful one, given to it because when played on the Tabla this Tāl creates a sort of rumbling sound, which is very exciting and martial in its tone. The variations used in this Tāl, and the words made use of in its variations are numerous, and produce a very fine effect when they are played by a skilful performer on the Tabla. The third Tāl to which I shall now allude is the one beat time. Many variations in this Tāl are also produced. There is another Tāl, the name of which means excitement or uproar, and which, when played on the Tabla, really, I think, produces such an effect. The beats in this Tāl are very peculiarly placed, and are difficult to follow. There are many such Tāls in the system of Indian music, and to describe and illustrate them all is not at present possible.

Having said this much in regard to scales, notes, and the system of time in Indian music, I shall now proceed to explain the system and formation of Rāgs and Rāgnis, or Divisions and Sub-divisions of music. As I have already stated, this is another remarkable peculiarity and distinctive feature of the Indian system of music. Considering that we have no system of notation, and that everything in connexion with the science has to be learned by the ear, this pre-arrangement of ready-made melodies, to represent the different times of the day, the different seasons of the year, and the different emotions of humanity in all their multitudinous shades was, perhaps, considered by the old masters of Indian music the best form in which to convey the knowledge of music to the Indians, who, I may here mention, are a nation by no means wanting in a natural taste and predilection for this
art. They are so fond of music that they make use of its language even in their daily avocations, in their daily prayers; and in other concerns of life. In the streets of an Indian city you will often come across a hawker, or a seller of sweets, whom you will hear singing out the praises of the article that he offers for sale in musical notes, and informing you in sing-song of its price—as "Buy my sugary delicious palm juice!" or, "Ten pies per four pounds of salt!". In like manner you may hear a priest reciting his prayers in musical tones. But I will not detain you by referring to more such instances, and will at once proceed to explain what this system of Rāgs and Rāgnis is. The word Rāg, says Sir W. Jones, means emotion or passion, and he is perfectly correct, for the Rāgs and Rāgnis, as composed by masters of Indian music, are no doubt capable of the several sensational and emotional functions assigned to them. Rāgs and Rāgnis are innumerable melodies in every variety, classified and arranged in divisions and minute subdivisions according to the prevailing sentiment, or emotion in them. Each is represented by a certain number of notes (naturals, sharps, and flats) arranged in one specified order, any deviation from which order having the effect of falsifying the Rāg, or making it quite another Rāg (or melody). The first great divisions are called Rāgs, or the parent melodies, and the Rāgnis, which are their off-shoots, are called the daughters of the Rāgs. This distinctive feature of classified melodies, fixed and pre-arranged on a system with minute care and precision, is absent in European music, and composers in that system therefore have at all times to create from their own imagination the combination of notes suitable to the sentiment of each composition. In Indian music the melodies to represent each emotion being ready-made, named and classified, the composer of a song or piece of music has only to select the particular Rāg or Rāgni that will fit in with the prevailing idea in the song that he has to compose, and thus (according to a writer on Indian music) "joy or sorrow, anger or excitement, peace or quietude, advice and admonition, and other human emotions in all their shades have their system of vocal notation, so pre-arranged that a fresh creation of the kind in Indian music is rendered quite unnecessary." European music is replete with passages of great pathos and emotion, and is fully capable of conveying some recognisable meaning with great beauty and variety of sentiments, but Indian music likewise is not wanting in that respect. This
grouping is one great characteristic which distinguishes the system of Indian music from any other. Thus, if you have to write a war song or a soothing melody, a tune to quiet the sick or distressed, or a love song, or one to convey advice and admonition, you have only to select the Rāg or Rāgni adapted to the nature of your composition. The language of that Rāg or Rāgni is sure to suit your purpose admirably. In regard to these Rāgs or Rāgnis, you are allowed a wide latitude; while preserving the original sentiment, you may introduce as many variations as you please, but always in conformity with the prevailing Rāg or Rāgni.

[Here the lecturer gave an illustration by a Rāg intended to be sung in the sultry hours of the day, and to excite to valour and such like emotions. He also sang a part of a kind of war song, a warrior's harangue to his troops, composed by Mr. K. N. Kabraji, a friend of the lecturer, to whom he was indebted for several suggestions in connexion with his subject. Mr. M. Doctor next gave a song of the exciting class, a Rāg, the name of which—Deepāḥ—means "dazzling brightness." He said that tradition tells of a great musician of old days who sang this Rāg so effectively that his notes lighted all the lamps in the room—as if by magic or electricity. Another Rāg was dedicated to the monsoon, and by its means, the musician is said to have caused rain to fall in torrents when it was much wanted. The lecturer also gave instances of several soothing melodies in which flats and semi-tones are employed. One rāg, appropriated to weddings and other joyous occasions, was illustrated by a song, in the form of a dialogue, taken from a play written by Mr. K. N. Kabraji, on Rama and Sita. It expressed the joy felt at the recovery of Sita and her two sons from the waters of the Ganges. The following is a translation: "Joy! great joy! sing ye all! strike the drum of congratulation! Wait! oh wait! What has happened? Daughter Sita has been found with her twin sons. Joy! oh joy!"

Thus these divisions and sub-divisions of musical sentiments in the Indian system are so numerous, and, at the same time, so minute, that not only the great human passions, but the minute shades of these passions receive through them an effective and an adequate representation—joy or sorrow, sympathy or wrath, appeal or advice are of various kinds, and the Indian system of Rāg and Rāgnis admits of their representation, musically,
even in all these modifications. But it is a very wide
subject, and it is not possible for me in one lecture to
depict by illustrations, all that I have said above, and
so I shall conclude with two more illustrations, showing
how Indian and European melodies resemble each other,
and that Indian music can be harmonised according to
the English system, or that on Indian instruments
European melodies can be played, and that when thus
performed both become more effective. [The lecturer
chose as examples "Home Sweet Home," and "Bid me
Discourse," by Sir Henry Bishop, and Indian songs
which strikingly resembled these.]

I have stated above what the state of musical educa­
tion in India is, and by this lecture, imperfect as I know
it is, if I have succeeded in creating some interest regarding
it in your minds, I shall consider myself fortunate
as having done some service to an art which I love, and
which I hope to see in a much more flourishing condi­
tion than it is at present. The blessings which British
rule and British influence have conferred upon India are
too many and too patent to require fresh mention here.
We Parsees are the foremost in enjoying them, and
have gone a great way towards introducing the art and
practice of music in our homes and in our families, but
among the other communities and masses its general
introduction, its proper cultivation, is still wanting;
therefore, if by opportunities like the present, any
interest in our music can be awakened amongst the
people of this great country, so that it might lead to the
European mode of instruction being partly adopted, a
great deal will be done for the preservation and improve­
ment of Indian music.

At the conclusion of the lecture, Mr. Manekshaw D.
Doctor received a hearty vote of thanks for his interesting
explanation of the peculiarities of Indian music, and for
his vocal and instrumental illustrations, which were heard
with great attention.
SOCIETY FOR THE ENCOURAGEMENT AND PRESERVATION OF INDIAN ART.

INDIAN ART-METAL WORK.

It is the good fortune of the S.E.P.I.A.—whether merited or not we must not say—to have "first foot" in the public operations of the Imperial Institute. This comes by way of the fine show of Oriental metal work (opened at the Soirée, June 21st), the inception and organisation of which is largely due to the energy of Surgeon Lieut.-Colonel Hendley, who, in gathering the collection, has been greatly aided by Mr. and Mrs. David Carmichael. This combination favours in many respects the selection of articles that especially illustrate the objects of the Society, as showing some of the best examples of Indian artistic handiwork in metals, precious as well as common.

In this preliminary notice it will not be practicable to speak with nice discrimination as to the specific principles that the S.E.P.I.A. strives to maintain—such as the strictly original character of hereditary Indian art; and the necessity of avoiding the degenerating influence of modern commercial demand. This special task must be worked out afterwards by expert hands, when some complete survey of the exhibition can be undertaken. Just at present, our main object is to induce attention, both from the public and connoisseurs, to this remarkably attractive and varied show, by mentioning a few of the more prominent examples that could be noted whilst the rooms were in a very unfinished state of preparation. H.R.H. the Prince of Wales, whose lively interest in all that concerns the development of the Institute is well known, indicates, also, his earnest desire to popularise a just appreciation of the resources and treasures of our Indian Empire by sending a choice selection from his artistic collection, gathered as a loyal tribute from the princes and peoples of India during his memorable tour, in 1875-6, through the Great Peninsula. As to these examples from Marlborough House and Sandringham, we refrain from singling out any
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of these on the present occasion, as that must be done by more practised hands at a later period.

H.I.M. the Queen has also sent several of her Indian treasures for the opening exhibition of the Institute; but adequate notice of these must also be postponed for the present. There is one, however, that must be referred to as a choice example of Travancore art. It is a precious casket in which an address was forwarded to her Majesty. This, as to its main construction, consists of fine silver filagree, the illustrative portion being of fine gold in high relief. These comprise, in the upper portion, the representation of a grand pagoda in conventional perspective, so as to bring out the rich ornamentation of the structure; and in the lower placed scene, there is the spectacle of an imposing Durbar assembly, with all its elaborate ceremonial groups. The execution of this field of real gold is as marvellous in the full effect, as it is minute in faithful delineation. No wonder that our Sovereign Lady should rank this amongst her choicest imperial treasures at Windsor.

The Duke of Connaught sends a very fine selection of his Indian artistic purchases. These include (Case 12) massive carved silver bowls from Lucknow—the names of the makers (or perhaps of capitalist exploiters) being duly given as Durga Ram and Munohar Das. His Royal Highness also shows (Case 10) a fine example of a cobra-capello canopy of old date from Southern India, which, possibly, formed a completing portion of the Shiva emblem. This shows chasing and skill of a very high quality.

Lady Mayo sends very choice enamelled ornaments; and Earl Powis fine gold filagree work. Lord Elphinstone exhibits a collection of decorated arms and equipments gathered by his predecessor, the former Governor of Madras, and later of Bombay. These include a fine inlaid basin, and a grand shield of camel's hide, the bosses being studied with emeralds. This is spoken of as from Guzerat, but was probably made in Kutch, for which manufacture that kingdom was long noted. Near these are fine specimens of chased armoury and smaller ornaments contributed by General and Mrs. Keatinge. The lively paper in the January number of this Magazine by that lady, on "My Troublesome Sonar," will be in the recollection of our readers. General Persse sends articles curious and rare, amongst which is a sword said to be worn by Tipu Sahib when he fell at the final siege of Seringu-
patam; but a certain authority avers this must be a mistake, as the identical sword found with the slain "Tiger of Mysore" is in the Queen's possession at Windsor. General Persse sends also an exquisitely worked figure of the god Ganesha, with all his emblems beautifully delineated.

Sir Steuart Bayley and Sir Charles Bernard send a great variety of objects, those by the latter being chiefly from Burma. Amongst these is a massive silver bowl in high relief from Rangoon, the maker's name being given as Ko Kwet Mee. In Sir Steuart Bayley's collection is a very fine example of Tanjore art, a bowl in copper and brass, on the rim of which is a finely-arranged Ras Mala procession, and on another portion the dance of Krishna with the Gopis. This (No. 135) is regarded as a special illustrative example of old Indian art, and is said to have been described by an Italian traveller or priest, Nicolo Conti, in the thirteenth century. The same eminent administrator brings from far Manipur (No. 130) a finely-chased silver bowl, showing that Hindu art had found its persistent way into that somewhat barbarous principality, of which we heard too much a year ago. Sir Steuart, also, in another room, shows a gigantic telescopic trumpet, said to be used by the Lamas in Thibet—who must have powerful lungs, unless, indeed, they secured Mahatmas as trumpeters. Sir Charles Pontifex exhibits choice silver bowls and centrepieces. Miss Manning sends a fine silver bowl of Surat workmanship, and several other articles from northern India. Lady Hobhouse exhibits fine examples of Lucknow and Kashmir gold and silver work.

Amongst the most varied and striking contributions to the Loan Collection from non-official exhibitors are those of Mr. J. Annan Bryce, of the Burma Trading Company, many of which are the finest examples from that province of outer India, and thus afford striking comparison with the work of Hindu and Mussulman artificers. Amongst these are (in Case 10) a splendid silver bowl with Buddhist figures and devices in high relief; also an oblong prayer-book, copper and lacquer, which is carefully finished. In the same case is a set of pony harness fittings in fine repoussé work of rich red gold. In Cases 11 and 12 are choice examples of Kashmir salvers and tea-trays, also several goblets and small vases in Bidar work, but which, experts say, must have been made in Persia. In similar material are several mythological figures and emblems of Vishnu, Sakhi, and the Shiva nundi (or bull). In Case 12
Mr. Bryce shows a covered jug-vase in brass repoussé work, which may be cited as one of the most genuine examples of Indian art—perfect in shape, the chasing and sculpture, both of foliage and animal life, being of the finest style of work. This is spoken of as coming from the Deccan; but experts say it bears traces of Mogul influence—as, indeed, might be the case in Southern India. One of the most remarkable articles sent by Mr. Bryce is a drum from the Garo hills. It is made in alternate strips of brass and copper, the effect of which arrangement is supposed to increase the vibration, so that the sound could be heard at four miles distance. The workmanship of this powerful sound creator is most careful and exact, so that its construction must have required prolonged labour and pains.

In another room are examples of fine pierced work from Tanjore, sent by Mrs. Carmichael, in the form of plaques and salvers. There is also a choice selection, made by the same indefatigable Honorary Secretary of the S.E.P.I.A., of Tripetti brass and copper work, including a fine salver of pure Hindu art, made about thirty years ago. There is a striking collection of brass figures of Indian soldiery of all arms, elephants, and the rest. There are, also, too numerous to mention, carefully selected examples of Travancore art work, sent by the same lady. Sir M. E. Grant Duff sends examples of fine pierced work from Tanjore, one or more of which date from fifty years back. As to the varied and gorgeous collection from Jeypore, selected by Dr. Hendley, that, and many more items, must wait for further and better description. Altogether, the exhibition should do much to extend and perpetuate the valuable function of the S.E.P.I.A.

W. M. W.
THE Convocation Address to the new Graduates of the University of Madras was delivered this year by Mr. H. B. Grigg, M.A., C.I.E., Director of Public Instruction, Madras, and Fellow of that University, and, at the request of the Senate, it has been printed in pamphlet form. The address was remarkable for its practical wisdom and elevating thoughts, and it well deserves to be studied, as a whole, by the educated men of India. It will lead them to realise the responsibilities and the opportunities of usefulness which are connected with their position, and will thus stimulate them to nobility of character and earnestness of aim in the wider sphere of life, for which earlier years of study and training have prepared them.

Mr. Grigg began his address by recalling the names of the Fellows of the Madras University who had passed away during the previous year, describing every one of the list in a few descriptive and characterising words. These were: Sir Thomas Pycroft, who helped to organise the public instruction of the Presidency; Sir Madhava Rau, “the most capable Hindu administrator of modern days;” Mr. Pogson, the famous astronomer; Bishop Caldwell and Dr. Hay, both Dravidian scholars; Mr. Hanna, well known as an engineer; Dr. Mohideen Shereef, an experienced student of Medicine, who showed the merits of medical indigenous systems, at the same time inducing his co-religionists to appreciate modern scientific methods; Rai Bahadur S. Ramaswami Mudaliar, a helpful Fellow of the University; and another Fellow, the Rev. W. T. Satthianadhan, an excellent man, one of the first matriculated students.

Next, Mr. Grigg referred at some length to the origin of the Indian Universities, the objects for which they were established, and their possible development. The three first Universities of India, he remarked, were the immediate outcome of the Educational Despatch of 1854. “But the educational conditions of India which that great State Paper sought to regulate, were due to the labours of many
eminent men, statesmen, lawyers, missionaries, and of others, natives of the soil, such as Raja Ram Mohun Roy, who had been quickened by the first breath of the dawn of Western knowledge in India. "These men saw that the literature of India, beautiful and varied as it was in the earlier periods of its growth, had been reduced to sterility and decay by the idea-strangling and cast-iron systems of control elaborated by commentators and grammarians of a later age. They saw that the ancient educational systems of the country were powerless to work a change in the Indian peoples towards a higher life, and towards material well-being, and they strenuously fought for the introduction of a system of education under which the free thoughts and noble 'intents of the heart' of the peoples of the West might be conveyed on scientific methods to these Eastern peoples: seeking thus also to re-invigorate and re-store to their proper place in the mind-building of the people: their ancient poetry, Vedic, epic, and dramatic, their books of law and the philosophical speculations of their sages." The three Universities were founded in the year 1857. The practical ends of their establishment were, not to form a centre of instruction for all, but a centre for testing the instruction of all, and by this system of public examinations to "develope higher education;" also, by the division of University degrees and distinctions into different branches, to help forward the studies "which are necessary to success in the various active professions of life." But Mr. Grigg evidently considers that the University system has not done all that was expected of it, and that it needs continued development. He desires that the Madras University should become more distinctively a centre of knowledge and learning and scientific thought, instead of remaining merely an examining body. It should attract to itself its best graduates, whose influence might thus act with the power of an organised force upon the education of the Presidency. In order to effect this, he would like the Colleges to become—as indeed they are becoming at Madras—more prominent. He recommends that the graduates should gather round their Colleges, should strengthen them, and should, through the Colleges, keep in close connexion with the University. "Such a gathering of educational forces will, I would fain believe," said Mr. Grigg, "raise this University to a far higher sphere of usefulness than that which it now occupies." The course of University study has been greatly improved in late years, and there are more facilities than formerly in the higher
Colleges of adequate professorical teaching; but still much remains to be done before the Indian Universities can develope into fully satisfactory institutions.

In the main part of his address, Mr. Grigg urged upon the new graduates the great importance of carrying on self-culture, although their University course was over. First, they should keep up and improve their knowledge of the English language. Mr. Grigg advised them to keep by them the works of great authors, with which they might have already made slight acquaintance, and to form small libraries of their own, occasionally adding such books as accorded with each one's special taste or talent. He went on as follows: "Do not be tempted to say 'I have my work to do, and I would do that with all my might. Of what help will the continued study of literature be to me? You can make no greater mistake in life than this, for the study of literature is in a sense the study of mankind. And you cannot be in sympathy with your kind, you cannot have a due sense of proportion with regard to your own special work, if you neglect to read, or rather to keep up your reading in general subjects as well as to pursue reading in connexion with your special work in life. I do not say you should not have your favourite lines of reading or your favourite authors; by no means. Even in literature you should have your own department, your own book-case, so to speak, in the world's library. But do not narrow your sympathies. Most of you will make your living in the Public Service. That Service more and more needs cultivated men, men full of the thoughts of others as well as of their own. If you would be useful in your day and generation, if you would leave the world a little better than you found it, make the acquaintance of great men in their books, and never tire of their friendship. Oh, the marvellous inheritance which they have left! The right to communionship with them in thought, and, aye, in action too! To you, isolated as necessarily you often must be from your fellows, how great is this boon, how inestimable the blessings of the great legacies of thought which they have left with you! "Their works," writes Wordsworth—

\[
\text{"Are a substantial world both pure and good}
\text{Round which, with tendrils strong as flesh and blood}
\text{Our pastime and our happiness will grow."}
\]

After suggesting the value of taking up also some other European language, classical or modern, Mr. Grigg continued: "Now as regards your own Vernaculars, your
CONVOCATION ADDRESS.

Duty is not merely to add to your power of understanding the men whose books you read, but, if you have any true desire to spread good and useful knowledge among the people, you must also obtain the power, which so few of you, I fear, possess, of expressing yourselves idiomatically and vigorously in your own language, and of interpreting through it your new knowledge and ideas. No one can feel more strongly than I do that, if the peoples of India with their numerous Vernaculars are ever to rise to a nobler life and to greater wealth, the proportion of those who know English must be ten, nay, twenty-fold of what it is, and be equally distributed amongst men and women; but no one more strongly believes that the great mass of people can never be truly regenerated until each Vernacular is made a fitting vehicle for carrying on that knowledge. Only those who have had to do with the translating of little works of a scientific character into one of these Vernaculars can appreciate how difficult the task of interpretation now is. But this interpretation must be done. For it is folly to imagine that the rapidly increasing millions of South India can ever be English-speaking or depend mainly on English literature. The growing circulation of vernacular journals and leaflets shows how rapidly this demand for something to read is spreading, especially among the Tamil population. Gentlemen, to whatever Faculty you may belong, if you would spread abroad some rays from your own lamp of knowledge do not fail to gain such a command over your Vernacular that what you write may be read and understood.

Further, the importance of Mathematics was dwelt on as fitting men “to deal logically with the great social, revenue, and industrial questions,” and also of History, so necessary for such as have to conduct public affairs, and for those who are connected with the newspaper press. Moreover, a sound knowledge of Physical and Natural Science should be acquired by men who have to act as teachers in this line, as well as by actual workers in the various industries. “Why is it,” asked Mr. Grigg, “that with one or two solitary exceptions, which but prove the rule, every enterprise for developing the wealth of the country comes from Europeans? The reply generally is—the natives are too poor, they have no capital for great or novel enterprises. There is truth in this, but it is not the whole truth, because your capitalists, as a rule, do nothing. The new energy of a people does not require great enterprises to test it. It may be shown
as well in small things as in great; in the making of a brass vessel, in the planting of a hedge, in the digging of a well, or in the introduction of a new seed or a new plant. If intelligence and a love of progress are there, a poor people can do much. The history of the world has shown how poor and isolated peoples have risen high in the scale when fired by such a spirit. It is through an education which teaches the child to use its hand, its eyes, its reason, instead of its memory alone, that such a change can be wrought in the mental attitude and in the habits of a people."

Having thus addressed the graduates in Arts, Mr. Grigg passed on to the graduates in Law, in Medicine, in Engineering, and in Teaching, giving to each division valuable suggestions and advice. He then urged upon one and all the duty of helping forward the education of the great masses of the people, of establishing schools, rendering their schools efficient, making it clear not only to the agricultural but also to the industrial classes, that instruction will be to their children a real gain. Referring to Drawing, Mr. Grigg observed: "Five years ago the children throughout the Presidency learning drawing could be numbered by tens; now they may be numbered by scores, and ere long they will be numbered by hundreds. And what is more noteworthy is, that a large proportion of those that learn belong to the artisans' classes. This movement has now a solid basis in the growing belief that, through drawing and a knowledge of better forms, articles of commerce, such as metal vessels, have a better sale, being better designed and of greater variety. Your task is to fan this smoking flax into a flame, and thus, like true lovers of your people, to seek through scientific instruction, however humble, to do for the ancient industries of India what scientific scholars are doing for its literature; and I doubt not that with the marvellous manual dexterity and patient industry of your workers, who love, like true artists, to linger over details which would weary the artisans of the West, India may regain her place as the mother of the finer textile, as of other minor arts."

We will now extract from the concluding portion of this interesting address:—

I have spoken of the arts connected with the industrial side of life. I would now ask you not to ignore or undervalue the cultivation of the Beautiful in art, which is needful to the completeness of the human being.
Remember that the Beautiful is very near akin to the Good—so near that one people, intellectually the foremost of races, had the same word to express both ideas—or rather they recognised in them but one idea, for they felt that the Beautiful must include the Good, and regarded the cultivation of what is Beautiful as the cultivation of what is highest in the moral nature also. Of this Beautiful that part which comes to you through the sense of hearing you may cultivate in literature, especially in poetry, and in music; the other part is that which comes to you through the sense of sight in architecture, sculpture and painting. Of the cultivation of the Beautiful through literature I have already spoken. Bear with me whilst I urge on you to cultivate the other branches. The history of a people may be read in their arts as clearly as in their language. And no people can reach a high standard of culture, or fully develop the social and unselfish elements of its character, the aesthetic side of whose nature is left uncared for. In your history what do we find? The Beautiful has been cultivated chiefly through poetry, through architecture and music in a lesser degree, but hardly at all through sculpture and painting. Take them in order. *Architecture* should appeal most directly to your sympathies. For what is it but the art of making the building in which you have to live and work, or to transact your public affairs or to pray, as convenient and as beautiful as in the fitness of things it should be. At present it seems to me your energies are chiefly confined to making your houses of worship beautiful, and the houses in which you live comfortable. But even when you aim at the Beautiful, it is in mere imitation of old forms, which no doubt appealed to the heart of your ancestors, but which have little meaning to you. Now I would ask you to try and understand for yourselves through reading, and the study of drawings of the most beautiful buildings in the world, or by studying with your eyes any beautiful building that may be within your ken, what is beautiful, what is ennobling, what is delightful in such structures, what it is that makes you feel that you would like to see, or to pray in, or to live in the building you admire; and then apply the ideas you have conceived to the forms that meet you in your daily life; and when applying try to imagine how you, if you had the power, would remedy the defects you notice, or beautify, when only the beautiful is lacking. Picture to yourselves the
perfect home, all local circumstances considered, in which to live, and the most beautiful temple in which to worship. Believe me, if you study architecture in this practical way, and cultivate your imagination in regard to convenient and beautiful forms of building, you will gain for yourselves a pleasure-giving faculty, and render yourselves, though indirectly, the means of helping your people as they rise in civilisation to make their habitations, their buildings of assembly, rise in the standard of beauty too. And I would not have you forget how great an educative effect the good and beautiful in buildings has upon the people who inhabit or frequent them. To this sentiment is chiefly due the erection of some of the noblest buildings in the world,—Churches, Palaces, Courts of Law and Houses of Convocation.

Music you have cultivated from generation to generation, but as yet it has only reached the point at which the Greeks left it. And now it remains for you to add to melody harmony, without which music can be but the art of the individual. Melody is the most perfect expression of emotion, for where words end music begins, but without harmony music can hardly be a great social cementing force. Who can say how great has been the influence of the German chorale in giving cohesion to the heterogeneous elements of the German people; or how great has been the moral and social, yes, the political effect too, in promoting the harmonious life of the English people, of the gathering together of men and women of all grades of society in rendering under one leader the great choruses of Handel, or Haydn or of Mendelssohn. In asking you therefore to develop on scientific lines your system of music, I am only asking you to add to your means of promoting the union and regeneration of your people,—and I would add, of strengthening your human sympathies and your sense of order and proportion.

Sculpture—the most sublime and most difficult of the arts—that which concentrates within itself more than any other, power, passion, individuality and beauty—has been cultivated almost only in connexion with religion, and even there how few of the forms which your sculptors have produced represent what is grand, beautiful or ennobling!

In Painting, the faithful interpreter of Nature in all her moods, you have done but little, although your power to become painters is shown by the promising productions of more than one living artist and in the great beauty of your textile designs and embroideries. In the early
period of the history of your race you seem to have
possessed a high sense of the beautiful. Your ancestors
were the worshippers of the Divine through the powers of
Nature. Otherwise you could not have produced the poets
of your early literature. Will you not then train your
eyes to see and your hearts to feel, that you may return,
not to the broken idols of your youth as a nation, but
to yield a more discerning and enlightened reverence to
the beauties of the material world about you? If you do,
believe me, you will find "books in the running brooks,
sermons in stones and good in everything." And not only
so, but the cultivation of these arts will bring your several
peoples closer together—for art is an aesthetic language—
and as a common language unites races different in stock,
so will it bring you together who cultivate the same ideals.
Whilst through that portion of it which relates to the
pourtrayal of the beauties of Nature—the sublimity of your
mountains, the grand progresses of your golden rivers, the
smiling verdure of your fields of grain, the mysterious
influences of your vales and groves—you may kindle to
stronger flame your love of the beautiful country which
gave you birth.

We would call special attention to Mr. Grigg's earnest
appeal to the graduates to let the women share their
educational advantages. He spoke as follows:

I have striven, feebly striven, to induce you in the
life which now lies before you to cultivate every god-given
faculty in your nature—to perfect your manhood—I had
almost said your Humanity. But "Humanity has two
sides: one side in the strength and intellect of manhood;
the other in the tenderness and faith and submissiveness of
womanhood. Man and woman, not man alone, make up
human nature." Gentlemen, will you whose lips have
tasted of the "new joy ineffable" of the feast of know­
ledge, keep the nectar and ambrosia of that feast selfishly
to yourselves and not invite to join you at the board
the other half of your humanity—your wives, your sisters
and your daughters?

Remember if you will not bid them to share that feast
with you, if you leave them to stand without, humbled
and unsatisfied, you must pay the penalty. The laws
of our nature are inexorable. You cannot split humanity
in two and expect to attain for yourselves moral and
intellectual completeness. That which God hath joined
together let no man put asunder. No people recognises
more fully, I might say more beautifully, than your own,
so far as the family is concerned, this truth, the mutual
dependence of the sexes,—but as yet you have not
recognised this union in knowledge and culture as necessary
for your social well-being and moral advance. But so
it is. It is a law which science more and more acknowl-
edges. If in man were collected all the excellencies of
our many-sided nature, and women only possessed them in
a lower degree, something might be said for that view.
But it is not so. In woman this aptitude for the per-
fection of some of the qualities of our nature is stronger
and capable of a higher development than our own. To
these virtues, the distinctive virtues of womanhood, how
much does the world not owe? To the influence of woman
is due in no small measure the exercise of those gentler
virtues which have become characteristic of the most
progressive races on this planet. To woman are they
indebted for much of that reasonable spirit of self-sacrifice
and obedience which is rendering the social, nay, the
political progress of mankind possible. But assuming
this is not so—that woman is but "undeveloped man" and
feeble intellectually and morally. Are you even so acting-
wisely in not educating her, in not strengthening her
intellect, in not substituting principles on which to base
right conduct for moral rules of thumb?

It rests especially with you, Brahmans of South India,
whose fathers brought much light and knowledge from the
north to the south, and who have, at least, twice in your
history given a mighty reformer of religion and morals to
India, to follow the lead of Dewan Bahadur Raghanatha
Rau, and to render a more signal service to the people of
this land by making it an accepted principle of all Indians
that women shall be taught as well as men—in a word,
that education shall not be one-sided but complete.
THE BIRTHDAY HONOURS.

The Queen has been graciously pleased to make the following appointments to the First, Second, and Third Classes of the Most Exalted Order of the Star of India:

To be a Knight Grand Commander.
Colonel His Highness Maharaja Partab Singh, Indar Mahindar, Bahadur, Sipar-i-Saltanat of Jammu and Cashmere.

To be Knights Commanders.
Sir Auckland Colvin, K.C.M.G., C.I.E., Bengal Civil Service, Lieutenant-Governor of the North-Western Provinces and Chief Commissioner of Oude.
Henry Edward Stokes, Esq., C.S.I., Madras Civil Service, Member of the Council of the Governor of Madras.
His Excellency Maharaja Bir Shamsheer Jung Rana Bahadur, Prime Minister of Nepal.
Maharaja Mana Vikrama Bahadur Zamorin of Calicut.

To be Companions.
Sir Edward Charles Buck, Bengal Civil Service, Secretary to Government of India, Revenue and Agriculture Department.
Henry John Stedman Cotton, Esq., Bengal Civil Service, Officiating Secretary to the Governor of Bengal, Member of the Legislative Council of Bengal.
Colonel Frederick Jervis Home, R.E., Inspector-General of Irrigation and Deputy Secretary to the Government of India, Public Works Department.
Major H. St. P. MAXWELL, Indian Staff Corps, Deputy Commissioner, Assam, and Political Agent and Superintendent of the Manipore State.

Surgeon-Major G. S. ROBERTSON, Bengal Establishment, Agency Surgeon, Gilgit.

The Queen has been graciously pleased to make the following appointments to the Most Eminent Order of the Indian Empire:

To be Knights Grand Commanders.

Sir JAMES BROADWOOD LYALL, K.C.S.I., Bengal Civil Service, late Lieutenant-Governor of the Punjab.

Maharaja Mirza Sir PUSAPATI ANANDA GUJAPATI RAO MANI SULTAN BHADUR GORU, Zamindar of Vizianagram, K.C.I.E.

To be Knights Commanders.

TIRUVARUR MUTHUSWAMI AIYAR, Esq., C.I.E., one of the Puisne Judges, High Court of Judicature, Madras.

GRIFFITH HUMPHRY PUGH EVANS, Esq., Barrister-at-Law, Additional Member of the Council of the Viceroy of India for making Laws and Regulations.

EDWARD CHARLES KAYLL OLLIVANT, Esq., C.I.E., Bombay Civil Service, Political Agent and Collector of Stamp Revenue, Kathiawar.

CHARLES PONTIFEX, Esq., late Legal Adviser and Solicitor to the Secretary of State for India.

HENRY HOYLE HOWARTH, Esq., M.P.

To be Companions.

Lieutenant-Colonel JOHN WALTER OTTLEY, R.E., Chief Engineer and Joint Secretary to the Government of the Punjab.

FREDERICK EWART ROBINSON, Esq., Chief Engineer of the East India Railway.

ROMESH CHANDRA DUTT, Bengal Civil Service.

ARTHUR JOHN HUGHES, Esq., Superintending Engineer, North-Western Provinces and Oude.
THE BIRTHDAY HONOURS.

WILLIAM JOHN BIRD CLERKE, Esq., C.E.

LOUDOUN FRANCIS M'LEAN, Esq., C.E.

Lieut. HUGH DALY, Indian Staff Corps, Superintendent, Northern Shan States.

JAMES GEORGE SCOTT, Esq., Officiating Superintendent of the Northern Shan States.

GEORGE PRINGLE ROSE, Esq., Officiating Deputy Manager, North-Western Railway.

RAI BAHADUR JAI PRAKASH LAL, Diwan of the Maharaja of Dumraon.

RAI BAHADUR KADIR DAD KHAN, GUL KHAN, Deputy Collector, Sind.

DIWANGANPATRAI, Extra Assistant Commissioner Beloochistan.

WILLIAM TURNER THISELTON-DYER, Esq., C.M.G., Director of the Royal Botanic Gardens, Kew.
HIGH SCHOOLS FOR GIRLS IN ENGLAND.

Readers in India of this Magazine may perhaps be interested in a short account, from one who is personally acquainted with their working, of English High Schools for Girls.

These Schools, over thirty in number, and scattered over the country, chiefly in the large centres, were started less than twenty years' ago, by a Limited Company, called the Girls' Public Day Schools Company, with Lord Aberdare as President, and under the immediate patronage of H.R.H. the Princess Louise, Marchioness of Lorne. The Council consists of men and women distinguished by their interest in the great problems of modern education.*

The aim of the founders of the system was to give to girls the benefit of a well-organised scheme of education, which should embrace the teaching of higher subjects—opportunities of study hitherto almost entirely confined to their brothers—to combine the advantages of home and school life, because the girls would still live at home, and attend school for some days—to prepare women for new interests and employments, thus enabling them to avoid idle and wasteful lives, and fitting them, if needful, to take their part successfully in the great struggle for existence.

Before the era of the High Schools, and of the opening of the Local Examinations of the Universities to girls, Girls' Schools were mostly very unsatisfactory and superficial. There were, of course, schools and schools, but the High Schools have done much towards abolishing the old-fashioned institutions, where vapid accomplishments and frivolity took the place of earnest and intelligent study. They have also done much to enable women to take their place amidst the manifold activities of English life. The age is democratic, and as the High School system is essentially created for the benefit of the people generally,

* It may be mentioned that the founders of the Girls' Public Day Schools Company were much assisted by the experience gained by Miss Buss, in the management of her large Day School (now the North London Collegiate School for Girls), and by that of Miss Beale, Principal of the Cheltenham Ladies' College.
and fees are very moderate, its pupils come from all classes of society, and share its benefits and advantages with a spirit of good-fellowship, regardless of degrees of wealth.

The curriculum is, for the most part, the same in all the Company's Schools, and includes the ordinary English subjects, Mathematics, Latin, and Modern Languages, and some branch of Natural Science. Girls frequently remain till about the age of nineteen, and many then continue their higher education at one of the Colleges for Women.

To several of the schools a Preparatory or Kindergarten department is now attached; but the School proper consists, as a rule, of six forms, which average thirty pupils in each. The teachers are frequently of high attainment; many come from the various colleges which have now been founded for women—for we at last begin to seek for a thoroughness and method in our teaching, and ladies with University degrees are frequently found on the staff of the High Schools. The head-mistress of each school expects from the staff not only a high degree of knowledge but a wide sympathy with child-life in its many aspects; the teacher encouraging each individual in her class to use her abilities, not in the objectionable spirit of rivalry so much to be avoided, but for the honour of the school of which she is a unit, and in that spirit of love which is the key-note of all true education. A few words as to the system of work. Lessons are carried on, as a rule, from 9.15 a.m. to 1.15, with an interval for recreation in the middle of the morning. Each lesson is of about forty-five minutes' duration, and the time-tables are constructed with full regard to the psychological sequence of studies. In the afternoon girls may remain, if it is desired, to be assisted in their lessons for the next day, and musical instruction is given by accomplished teachers. As a rule one afternoon the week is devoted to physical culture, under a trained-gymnastic teacher. In connexion with many of the schools are boarding-houses, managed by ladies who arrange a home in term time for those girls who come from a distance. Many of the pupils come by train to school every day, and the exterior of any High School presents a busy scene at about 9 a.m., when streams of cheerful book-laden maidens flock into their home of learning, to fulfil unconsciously, the dream of the Princess Ida in Tennyson's "Princess."

Much might be said of the method employed in teaching the various subjects. I have been able only to
indicate briefly the aim and scope of the work. Opponents of the system will not deny that the High Schools have done much towards taking away the reproach belonging to us as a nation for the neglect we have in past times given to the question of women's education and work. The workers in the cause look ever forward to the time when more still shall be done to foster the germ of special genius whenever it appears, and to cultivate in every child a true judgment of fitness and of beauty—a preference for the things that are lovely and of good report. Since Rousseau wrote that "women have in general no love of any art; they have no proper knowledge of any, and they have no genius," enough has been done in every sphere, greatly owing to the influence of the improved conditions of women's education, to give the lie to his sweeping denunciation. It is a tremendous question which lies before us, for, as in the days of chivalry the softening influence of women was of vital importance, so, in this busy, work-a-day England do we need the influence of refined and cultivated women. On them depends much of the happiness of the race; to them is given the power of so ordering "that mind and soul according well, may make one music."

Pauline Mercier.
REVIEWS.

POPULAR READINGS IN SCIENCE. By JOHN GALL, M.A.,
LL.B., and DAVID ROBERTSON, M.A., LL.B., B.Sc.,
&c. (Constable's Oriental Miscellany, Vol. II.). West­
minster: Archibald Constable & Co., 1892.

This is a book of considerable value and interest; for
although the chapters are called Popular Readings, they
are popular only in the simplicity of their language, and in
the lucidity of their expositions. They are truly scientific
in the exactness of their statements, in the care taken to
keep within the limits of ascertained fact, and in the
systematic harmony shown in the treatment of the vast
problems submitted to examination. Small as this volume
is, it embraces the grandest themes of scientific discussion,
and presents the principal facts deduced from the most recent
investigations, and the tendencies of future discoveries;
while, at the same time, laying down in clear and concise
words the elementary principles on which all the investiga-
tions depend. The book has been arranged specially for
the use of Indian schools, and for students preparing for a
University course; and it is difficult to conceive a book
more suitable to the wants of the Indian pupil. None can
fail to be struck with the prodigious disparity between the
labour given by Indian authors to the development of the
imaginative and speculative faculties as compared with that
given to the exact sciences. The result is an inexhaustible
capacity for poetic conception, the very riot of imagination
in legend and superstition, and a marvellous subtlety in
philosophical reasoning and metaphysical speculation, com-
bined with a melancholy want of mental vigour in the
departments of practical life. The scientific training
which such books as that now in discussion can afford, is
a most valuable corrective to this unfortunate condition of
the Indian mind. It cannot fail to do much good, and to
win the willing attention of the Indian students into
whose hands it may fall, both from the exalted character
of the various subjects, and also from the quiet unpolemical
tone of its statements.

But it is not only Indians who will find their advantage
in perusing this volume. Its contents may well be commended to the thoughtful study of all those who may not have devoted themselves specially to science, but who may be desirous of acquiring such a knowledge of solid scientific fact as will satisfy the wants of a generally well-informed man.

It is difficult to give any description of the contents of the book, as the subjects are so various, so vast in their nature, and so concisely treated in their style; but some idea may be formed from the following notes on a few of the topics. The first chapter deals with Meteorological Phenomena, and this is so written as to expound the universal principles of the science, while giving a somewhat detailed account of the meteoric conditions to which India is more particularly subject. Botany is next presented, or rather the general principles of vegetable life and growth are set forth. Here we find the bearing of the latest discoveries in microscopic fungi on the general classification of plants and trees. The eminently practical character of the first two subjects deserves particular attention; for India is an essentially agricultural country, and nothing can be, at the present time, more immediately beneficial to the people than accurate ideas as to weather and vegetation.

The Darwinian Theory comes next, and here we enter the domain of high science and speculative philosophy. This chapter is of much value from the clearness with which it explains the real claims of this much-discussed theory. Too many speak about it who have never read Darwin's books; and, therefore, form very erroneous ideas as to what that deep thinker really propounded. Such a chapter as that now penned is not beyond the patience of even the hasty, and it is to be hoped that the ill-informed will avail themselves of it. The facts upon which the theory rests are unassailable; and the moderate conclusion which Darwin drew from them needs only simple statement to command acceptance. That a general process of Evolution is going on, and has been going on, seems incontestable; and the development of existing species from previously existing types seems to be an inevitable sequent. That this evolution is due to natural causes seems scarcely to require statement; but, strange to say, this is the very point most violently disputed. The commonest observation will show to anyone that the great principle of Natural Selection is going on daily around us; by which, in both animal and vegetable kingdoms, the individuals, varieties, and species best adapted to the circumstances in
which they are placed survive, while those less suitable die out. The argument founded on the absence of connecting links between extinct and existing species is losing its force, as recent discoveries such as those described in this volume are rapidly supplying specimens of the links required. It is curious to remark that the Incarnations of Vishnu proceed in the order of natural evolution from primitive protoplasm to organised creation. I gave the *rationale* of this eighteen years ago, in the second volume of *The Oriental*.

Mimicry is a short section properly belonging to the subject of Evolution; for it deals with only one of the circumstances tending towards the survival of the fittest. The more curious and far-reaching subject of Evolution as exemplified in Chemistry is next ably discussed. We have here laid bare the ultimate causes of all chemical reaction; and a remarkably clear exposition of the atomic theory. The processes by which the nature of molecules is determined, and their composite character indicated, are mentioned; and the startling discoveries of Mr. Crookes, suggesting that all matter is but hydrogen in variously disposed arrangements, or in combination with ether, carry the mind to the farthest limits of cosmic science. The demonstration of the existence of ether as an actual substance is an acquisition to knowledge the full importance of which is not yet realised. It may become the missing link binding together all the forces of creation; the universal medium for the conversion and transmission of the varying manifestations of energy, and the all-pervading mother-liquor in which the molecule exists. Hindu science may claim a triumph here; for ages ago the thinkers of India had philosophically demonstrated the existence of an excessively attenuated form of matter, beyond the constituents of substantial creation, and that this imponderable ether permeated all matter and filled all space. They called it *akash*, and considered it to be the element of universal diffusion, and the peculiar vehicle of life, sound, &c. All Hindu philosophers believed, also, like certain Greeks, in the atomic theory. Jaimini, about 2,000 years ago, proved that sound is due to the vibrations of the air; and Kanada, a philosopher of the same period, held that light and heat were identical, and anticipated Sir Isaac Newton, by laying down the principle that, “the cause of a body’s beginning to fall is gravity, which resides in the earth and water.” The same careful thinker held the bold opinion that all sensations are only modifications of touch,
because sensation is caused by the "conjunction of an object with its organ of sense;" in other words, rays of force always connected the object with the sense-organ which observes it.

Gravitation is the next subject of which the laws are given. The calculable effects of this mighty force are stated with much clearness and happy illustration, but no attempt is made to arbitrate on the conflicting theories as to its causation. This shows how steadily the authors have kept themselves within the limits of fact and probability. The suggestion of Le Sage is mentioned, and merely mentioned; but the greatest problem of all— as to the transmission of gravitation-force through space—is not even alluded to; nor is any suggestion allowed as to the possible work of gravitation in the primal aggregation of nebular matter into planetary bodies. The views held by the most eminent scientists of the Nebular Theory are stated in the next chapter, leaving the mere juxtaposition to suggest what thoughts it may to the intelligent student. The primary cause of the heat which we experience, and which is an essentiality of the theory, is a great puzzle. Why should heat be postulated as an attribute of primordial nebulous matter? May not the eternal principle of gravitation have caused cohesion, and cohesion, by its exaggeration of attractive force, produce motion, and motion itself when attaining the frightful rapidity of objects in space produce the heat as a sequent? The marvellous discovery of the effects of the tides on the motion of moons and planets is very lucidly stated, notwithstanding the intricacy of the subject. This newest deduction of science is a surprising instance of the conversion of energy, and has been illustrated by the recent discovery of the two satellites revolving round Mars. The discovery of these two satellites shows furthermore the symmetry of the system, and even suggests fresh discoveries; for we now find the Earth with one moon, Mars with two moons, Jupiter with four moons, and Saturn with seven moons, which may ultimately be found to be eight, and so onwards, the distance, minuteness, and inevitable eclipses being the obstacles preventing discovery.

Energy well deserves the chapter given to it, for it occurs to few ordinary minds to realise the enormous quantities of potential and kinetic energy in operation throughout the universe. The fascinating subject of Light, its causes, transmission, reflection, refraction, and its effects in colour, &c., are carefully explained. The action of light
on vegetation in stimulating the chemical changes by which carbon is prepared for the plant, and oxygen is returned to the atmosphere, is explained by aid of the recent experiments of Dr. Draper and Dr. Gardner in Virginia, who found that the green and yellow rays of light were most active in the process, whereas the blue and violet rays were wholly inoperative. Light and heat are now regarded by Western scholars as the same physical agency, in conformity with the teaching of ancient Hindu writers. Care is needed in the apprehension of the terms used in this branch of science, for such terms as "velocity," "travelling," "passing through," &c., might lead to the assumption that particles of light passed from an object to the eye, whereas it is more probable that the undulations causing light are produced on the surface of the object, and are simply communicated to surrounding matter, like the undulations of the waves of the sea. If a stone be dropped in water the force of impact forces down some of the particles of water, which inevitably forces up the surrounding particles to make way for the depressed matter. This occasions the first ring of water raised around the point. When gravitation overcomes the accidental force impressed upon the water, the ring sinks back, but coming back to the general mass with the energy of its elevation it sinks below the normal level of the water, and thereby forces up a second ring or circular wave. The process is continued until all the energy communicated to the water by the first impact of the stone has been exhausted by gravitation, the resistance of the air, &c., and the ripples die away. But in this process the water does not move latitudinally, as may be seen by the fact that floating particles, such as straws, are only lifted up and let down, not carried along. It is in an analogous way to this that all the forces of Nature may be transmitted, without the actual passage of molecules of matter from one object to another; in fact, the enormous rapidity with which these forces manifest themselves over stupendous distances would crush to powder any celestial objects against which such a rush of even the minutest molecules should be hurled at such a velocity.

The Spectroscope follows, showing the extension of man's knowledge to even the chemical constituents of distant spheres. Chapters on Gases and on Water are then given, which have been so long studied, and so often explained that startling novelties of discovery can scarcely be expected in their study. They are, however, eminently useful subjects, and are most intimately connected with the
daily life of humanity, and with all questions of sanitation. A discussion on Molecules and molecular forces shows that what is known of these minute objects accords with the deductions from other branches of science; and that whether tested for elasticity or torsion the force of cohesion or attraction is always proportional to the mass.

The last subject will be read by many with much eagerness, for it recounts the recent investigations into the minute fungous growths, which have been spoken of as Bacteria. The vegetable character of these minute organisms is shown, their methods of development, their favouring circumstances, their groups and species, and their habitat. The study is still in its infancy; but the results already arrived at are startling and full of interest. Their connexion with disease, and the amazing rapidity of their multiplication, will greatly stimulate their investigation; and fresh discoveries of surpassing interest may be confidently expected. What is already known about them has led to a serious modification in the previous classification of plant life, and promises to open the way to a truly natural system of Botany, just as effectively as our apprehension of the true nature of molecules has occasioned a re-classification and a natural system of the so-called elements in chemistry.

A Glossary and Index end this excellent book; which, although it offers no original matter, and is not intended to do so, yet brings together with much judgment the deductions of a host of specialists, and renders accessible to an ever increasing number of inquiring minds the solid facts on which many sciences rest, and the conclusions to which these facts appear to point.

FREDERIC PINCOTT.

ENGLISHWOMEN IN INDIA.

In the New Review for June, the Hon. Mrs. Neville Lyttelton draws a graphic, faithful, and often touching picture of the life Englishwomen lead in India. Mrs. Lyttelton's types of character are, as may be supposed, taken mainly from "the services," greatly changed (as has been said) in character and constitution from the pre-mutiny time, while Haileybury yet flourished, and the government and administration of India were in the hands
of a happy family of relations by blood or marriage, but still a service of which England has reason to be proud. "The Anglo-Indian woman (writes Mrs. Lyttelton) is only a temporarily transplanted English-woman; and, only in so far as she is subject to special conditions, does she differ from the women of her own race and class anywhere else." And, again, "Anglo-Indian society is provincial, with officialism superadded." This is the "special condition" which rules in all Indian Mofussil stations, and even to a considerable extent in Presidency towns; and, while it gives to women the opportunity of showing the higher qualities of womanhood, exposes them to special temptations—arrogance, love of pleasure, vanity, flirtation—the former qualified in the "Burra-Memsahib" by "hospitality, charity (not always in the widest sense), indeed, all Christian virtues, except, perhaps, humility." And who can blame "the cheery woman, who rests not day or night, organising picnics, promoting dances and theatricals, who mourns the inertia of her fellows if entertainments flag even for a week. . . .—"a useful sort of person to have in a station, because she gets things up, you know." And even for the flirt there are many excuses. "The motives that underlie her conduct are vanity and reaction from a monotonous and lonely existence, resulting in a craving for some excitement. Without wishing altogether to justify her motives or their consequences, I still assert that they are more excusable in India than elsewhere."

Mrs. Lyttelton's sketch of the career of the Anglo-Indian woman, from the time that she comes out a raw girl fresh from a boarding-school, through the various stages of pleasure, fascination, marriage, motherhood, home-going, return to the old life—which, without the children, seems empty and monotonous,—is vivid and sympathetic. After reading it, one can hardly wonder at the Englishwoman who said bitterly, "If a woman becomes perfectly contented in India, it is a sign that she has deteriorated." And yet it is true (as Mrs. Lyttelton says) that "the woman who can drown home-sickness, keep her health, and who has sufficient resources within herself to be happy anywhere, is happy in India; but such women are exceptions all over the world."

Speaking of the globe-trotter's complaint of the dulness of Indian Society, and of the lack of intellectual keenness among Englishwomen in India as a rule, Mrs. Lyttelton remarks, that "In India we find ourselves in a country and among a people where tradition, religion, and inveterate
custom combine to throw women entirely in the background; and it is particularly difficult for Englishwomen living among scattered groups of foreign sojourners in the land, to find the material, or the opportunity for advancing outside the strict limitations of household duty and petty social occupations. The Englishwoman, as well as other women in India, has to fight against the strong Asiatic prejudice, which dislikes her taking part in public affairs of any kind.” Nevertheless, the fact so often clearly set forth in the pages of this Magazine, is fully recognised that, “in spite of these disadvantages and impediments, philanthropic Englishwomen are arising, in the latter days, who interest themselves in schools and hospitals, both English and native, and who learn the native dialect in order to make friends with native ladies, the wives of chiefs and other native gentlemen.” We venture to think that the sympathies of Englishwomen in India have a somewhat broader basis than even that here set forth, and that this sympathy is rapidly growing. And much is doubtless due to the influence of the English lady doctors sent out through the Lady Dufferin Fund. “These lady doctors (writes Mrs. Lyttelton) gaining, as they do, considerable acquaintance with, and insight into, the lives of native women of all classes, and yet taking their place in the English social life, form a link and arouse an interest between English and native women, which leads to the widening and enriching of the lives of both.”

We heartily welcome this kindly and generous-spirited contribution towards the enlightenment of Englishwomen as to the lives of their sisters in India, and must be forgiven if we cannot heartily echo the sentiment of “an eminent and well-known English judge who spent a long interval in India, and who is wont to say that he never knew what luxury was until he went to live in India; and when asked ‘why?’ replies, ‘because then I knew what it was to come home and live in England.’”

J. B. K.

**The Oldest Indian Journal for Women.**

The *Bamabodhini Patrika*, a monthly periodical for women in the Bengali Vernacular, of which repeated mention has been made in this magazine, persevering steadfastly through many adverse conditions, has attained an unexpected measure of success.
REVIEWS.

In the first number of the new Bengali Year (Baisakh 1299—May 1892), an old feature is revived in the addition of two English pages, which it is intended to continue. We quote therefrom a few explanatory lines:

"The Bamabodhini Patrika, or Enlightener of Women, is the oldest women's journal in India, having been started in August 1863. Its object is to further the intellectual, moral and social amelioration of the fair sex in India. Under the able editorship of the late Babu Keshab Chandra Sen it opened an English column, but for various reasons that had to be discontinued. With the advent of the new (Bengali) year we propose to have this feature revived.

There has been so much progress all round in the education of women that many of our educated sisters in different parts of India can exchange thoughts and aspirations through a common language—the English. In the far West, our English sisters are taking an increasing interest in the progress of Indian women.

"We intend to give short notes on events of abiding interest, either educational or philanthropic. Both our Indian and English sisters may help us by contributing under this head anything that may raise and ennoble the daily lives of the women of this country."

We may add that the objects of the periodical are very adequately carried out in its vernacular portion. Excellent papers on a great variety of useful subjects constantly appear, and much graceful verse adorns its pages, written chiefly by Indian ladies. While keeping on a level adapted to the comprehension of the less instructed reader, this periodical is absolutely free from the trivialities common to so many journals for women in the West.

M. S. K.
NEW BOOKS RELATING TO INDIA.

Lord William Bentinck; and the Company as a Governing and Non-Trading Power. By Demetrius C. Boulger. (Rulers of India.) 3s. 6d. (Clarendon Press.)

The Mutual Influence of Muhammadans and Hindus in Law, Morals, and Religion, during the Period of Muhammadan Ascendancy, with Special Reference to the Prospects of Ultimate Fusion. By F. W. Thomas. 3s. 6d. (G. Bell & Sons.)

Colonial Chronology: a Chronicle of the Principal Events connected with the English Colonies and India, from the Fifteenth Century to the Present Time. Compiled by H. J. Robinson, F.R.S.S. Maps, 4to., 16s.

Santal Folk Tales. Translated by M. A. Campbell. (Thacker & Co.)

India: What can it Teach us. Cambridge University Lectures. By F. Max Müller. New Edition, 3s. 6d. (Longmans & Co.)

Mahabodhi; or, the Great Buddhist Temple under the Bodhi Tree at Buddha Gayā. By Sir Alexander Cunningham, R.E., K.C.I.E. Royal 4to. With 31 Photographs, reproduced by Mr. W. Griggs. 63s. (W. H. Allen & Co.)

Transactions of the Seventh International Congress. Vol. XI. Indian Hygiene and Demography. Paper 2s. 6d., cloth 3s. 6d. (Eyre & Spottiswoode.)

India in the June Magazines.


Fortnightly: The Bengali in Indian Politics. Sir Lepel Griffin, K.C.S.I.

Contemporary: Our Outcast Cousins in India, by Rev. G. Sandberg.


Chambers: Pawn and Tobacco in India.

Sunday at Home: The Religions of India, as Illustrated by their Temples, by the Rev. Charles Merk.
We shall be happy to insert Notes and Queries on Indian subjects from time to time.—ED.]  

IN a "History of Travancore from the Earliest Times," written by P. Shadguni Mēnavan, sometime Diwān Peshkār (Deputy Chief Minister) of Travancore, and published by Higginbotham, Madras, in 1878, nearly one-seventh part of the volume, or 70 pages out of 520, are devoted to the reign of Mārttāndā Varmah, who, ascending the throne in 1729, died in 1758. Before his time, the kings of Travancore were insignificant princes, whose territory extended only about fifteen or twenty miles N. from Cape Comorin; it was he who subjugated the petty Malabar sovereigns on his frontier, enlarging the kingdom to its present boundaries. "Thus," writes his contemporary, Fra San Bartolomeo, who evidently regarded him as a Joshua amongst the Canaanites, "was humanity avenged; thus were the crimes punished, and the licentiousness suppressed, by which the country had been distracted ever since the tenth century."

Mr. Shadguni Mēnavan relates that during the reign of this sovereign an Order akin to knighthood was established in Travancore; it was called the "Champaka Rāman."* After being received by the Mahārājā in Darbār, his achievements proclaimed, and his person decorated with certain costly presents, the new knight is mounted on an elephant and carried round the town. The title, "Champaka Rāman Pillai," is thenceforth always added to his name.

Are any similar Indian orders of knighthood known to exist?

D. F. C.

* This may mean the deified hero, Rāma, garlanded with the bright fragrant flowers of the Champaka tree (Michelia Champaka).

† "Pillai," child, offspring; but here used as an honorary adjunct.
A VISIT TO THE TELEGRAPH DEPARTMENT AND GENERAL POST OFFICE.

A FEW weeks ago, I, with some of my friends, had the opportunity of paying a visit to the Telegraph Department and General Post Office.

The period in which we live is indeed one of wonders—or, shall I say, miracles?

First of all, we went to the Telegraph Department. Finding the building a huge one, we did not know where to go, but a telegraph boy came up to us, and asked us whether we desired to see the place. I replied "Yes," and gave him the admission card. He took us up and up flights of stairs, and showed us into a nice room, and made his way to one of the officers. After two or three minutes an official appeared, whom we followed, and again went up and up. Going up so many stairs, and passing several flats, reminded me of the seven Heavens, one above another. This officer took us through various departments, and explained the matters connected with each department; but to remember everything, or even a third of what we saw there, is, as far as I am concerned, utterly impossible. I was told in one of the departments that from London to Birmingham three messages could be sent and received on the same wire, and in one minute. When I heard this, I said to my friends, "It must be a miracle!" This method was introduced in America, and afterwards sold to the English Government. Another thing we admired was a perfect wall of telegraph wires, connecting all offices to the head one; and should one of the wires get out of order, it is known at once. And now at last we reached almost the top of the building, where, to my great surprise, I saw the majority of the workers were women; and in this department I noticed one special wire for Mr. W. Whiteley, which much amused me; to this firm I was recommended on first coming to England. While I was in that department, my thoughts, for a minute, went back to my own country, where our poor women are so backward in education; and if I tell them, and even tell some men what I have seen here, they will not believe a single word I say. It is our duty, when we go back to our fatherland, to do our utmost
to advocate the noble work of education. After having seen all that was very interesting, we were asked whether we objected to go down by the lift. Our answer was, of course, in the negative: it was really very amusing to come down by it.

The next place we were to visit was the General Post Office, but it was hardly twenty minutes to five, so we went to a refreshment room near the main gate of St. Paul's Cathedral. While we were taking our refreshment, we noticed a large crowd of people gathering all round the Cathedral. For a minute or two we could not make out what it was; in the midst of our curiosity, we saw the Lord Mayor's state carriage coming, and it stopped just in front. After an enquiry, we were told that the Lord Mayor was in the Cathedral; the service which he went to attend was for the Corporation of the Sons of the Clergy. After waiting nearly half-an-hour, we saw the Lord Mayor, the Sheriffs, and others coming out of the Cathedral, and getting into their state carriages; the Lord Mayor's carriage of course, as a matter of fact, was the grandest.

We now went to the General Post Office, where a very gentlemanly official met us, showing different things. He took us to a spot where letters are stamped; there we saw a very wonderful thing indeed,—the machine stamps, if my memory is correct, 140 letters in a minute: the letters are of course arranged before they come to this stage. From there we visited what is called the hospital for parcels, &c. I could not help laughing, because I had never heard that the General Post Office had a hospital for sick parcels; and I did actually see there some packets which, no doubt, were very carelessly packed up. The last thing, but not the least which interested us, was the department where letters not addressed properly are corrected by the clerks, and there one of the books was shown to us, which was really a book of puzzles, and very difficult puzzles too. I wish I could remember some of the curious addresses as examples, but what I remember now is a very poor specimen (while I was in the office I had no intention whatever of writing anything about the visit),—viz., there is a place called Maidstone; somebody, instead of writing the word Maidstone, had sketched a maid and a stone by it.

In conclusion, I wish to say that I enjoyed my visit to both places immensely.

London.

Syed. A. M. Shah.
A FEW months ago, we gave an account of the Report on Public Instruction in the Mysore State for 1889—90, which was the last year of the Directorship of Mr. Rice, the Archaeologist. In April 1890, Mr. H. J. Bhabha, formerly head-master at the Maharaja’s College, was appointed to succeed Mr. Rice; the official title being, however, altered to that of Secretary to the Education Department. We have now received Mr. Bhabha’s Report for 1890—91. It shows that the Mysore Government is devoting much attention to the education of all classes in the State, and that year by year considerable progress can be chronicled. The present Report contains very full and varied statistics, which will be especially useful as a basis of future comparison. A new census having been recently taken, it is impossible to compare accurately the school attendance in regard to the population between the years 1889—90, and 1890—91; but for the next two or three years, at least, these careful analytical tables will lead to a truer contrast of results. Mr. Bhabha gives the number and the kinds of educational institutions; he shows how many schools belong to each of the eight Districts; which are Departmental, which under Municipal Boards, which Aided or Unaided; also the approximate proportion of pupils, boys and girls, to the total population. Again, he classes the pupils according to their stages of instruction, according to race, vernacular, and the occupation of their parents; he compares the expenditure in Education from all sources with that of the previous year, and marks the average expense of each pupil, and the amount of fees, where such are paid. And in addition to all these calculations which appears in the General Summary, he states with much detail similar matters in the case of separate Colleges and Schools.

The number of pupils in the various institutions has advanced from 66,064 to 72,910, and it is particularly satisfactory that the Mahommedans, who form nearly a twelfth of the population at Mysore, have begun, notwithstanding their poverty, to acknowledge the value of education, as shown by an increase of about 28 per cent. of their children.
attending school. The State is, of course, mainly Hindu; and the educated class is composed chiefly of Brahmins. These not only fill the Maharaja's Sanskrit College, and the many Sanskrit schools of the Province, but also number 87 per cent. in the three Arts Colleges, and are in a considerable majority in the thirteen High Schools. The total percentage of boys under instruction in 1890–91 was 23.67, as against 21.38 of the previous year—and the latter calculation having been made upon the earlier census, and therefore underrating the population, the increase is larger than it appears to be.

The number of girls shows an advance of 1,968 over the number in the previous year, and it is really larger, as the pupils of some private institutions are left out of account. Mr. Bhabha is able to speak of "the rapidly growing desire for female education" in the State. What a change this expression indicates, when we think of the prejudices of past times! The fact is that in Mysore public opinion has been greatly, though gradually, influenced by the action of gentlemen of the highest position, for these have promoted education for girls as well as for boys, not simply by founding and encouraging schools, but by allowing their own daughters to attend an institution that is carefully organised on well-considered plans—we refer to the Maharani's Girls' School, which had on the rolls 460 pupils, of whom 408 were Brahmin girls. The total increase in the number of girls' schools during the year had been 25, and, probably through the influence of example from the higher castes, almost as many Sudra as Brahmin girls were under instruction in the districts. We may here mention, though it does not come into the Report under notice, the recent appointment of an English lady of educational experience—Miss Vokins—as Lady Superintendent, especially of the Training Department, of the Maharani's School. In the North Circle, at Tumkur, there is a good-sized school for Brahmin girls, which is known as the Empress' School, it having been partly founded from the Jubilee Fund of the district.

An Industrial School is carried on at a place called Hassan, the object of which is to train the boys to become skilled carpenters, and it is fairly successful. At the same place the Wesleyan Mission, which shows much educational activity in the Provinces, has established an Industrial School connected with an Orphanage. The boys are taught to till the soil, and when they grow up, the Managers give them a piece of land, a pair of bullocks, and a cart,
encouraging them to become industrious cultivators. The girls are taught household duties and needlework, but also some farming operations suited to their strength, such as weeding, reaping, and winnowing.

At Mysore there is a useful night school for poor artizans—Muhammadans rather predominating—where general education is given of the Primary School Standard, and occasionally lectures of practical interest take place. Night schools seem to be rather widely appreciated in the Province. It is the custom in many villages for the cultivators and others to assemble at the school-house at night, and learn mental arithmetic from the schoolmaster, or popular songs. Applications for establishing such schools have been received from various parts, and as soon as a general scheme can be sanctioned, steps will be taken to establish them all over the province. The Report says that at a small cost from the Government, Night Schools are likely to do immense good for the rural population.

With all the growing interest in education, it becomes especially necessary to secure an improved supply of teachers, and we are glad to notice that this point is occupying the attention of the Mysore Government. The Teachers' Local Examination seems to have been rather unsatisfactory, but it has, at least, brought to light the very low standard of most of the candidates. The schools, and particularly the Hindustani Boys' Schools, appear grievously to need better teachers. Proposals for organising two training schools for vernacular teachers were before the Government at the date of the Report being issued, and it may be hoped that before long training will be a requirement for all teachers. It should be training which not only adds to the teachers' fund of knowledge, but which elevates their ideal of what to aim at, makes them observe and understand the nature of children, practices them in the art of teaching, suggests helpful methods, and leads them to develop their pupils in character and in physical capability as well as in mind. The position of the teachers will thus rise to a higher level, and the profession will attract a better class of persons. Mr. Bhabha enumerates the following among the important means of improving the quality of education imparted in primary schools: "A revision of the standards and of the text books; the training of the teachers; the employment of inspecting officers of superior character and attainments to those of the present sub-deputy inspectors; the improvement of the social status of the village schoolmaster by:
increasing his monthly pay, and granting him a small pension on retirement.” It is to be hoped that as the value of education becomes more generally recognised, parents will not grudge the universal payment of reasonable fees, for the benefit of their children. It appears that at present fees are not asked for the education of girls. No doubt there are difficulties connected with making such a demand, but, as in British India, it will in time be felt to be just and advantageous.

This Report of Education in Mysore is very encouraging, not only on account of what it records as having been already accomplished, but because of the evident determination of the educational authorities to go forward with desirable reforms, and to provide full opportunities of sound instruction for the subjects of the enlightened ruler of the State.
TRAVELLING IN NORTHERN INDIA.

The following extract from a private letter which we have permission to print, shows that though journeys in India are less tedious than in olden times, they are not free from occasional perilous risks. The writer and her husband, a chaplain, were travelling with two children from Jullundhur, to their new station, Quetta:

"Here we are safe and sound at Quetta—the journey, with all its dangers and discomforts, a thing of the past. In spite of the really awful heat we went through last Thursday, we are all perfectly well, and none of us have suffered in the least. We left Jullundhur on Wednesday the 23rd, at 4.30 in the afternoon, when the shade temperature had mounted to the remarkable height (for March) of 104°. The heat of May had suddenly fallen on little Jullundhur, and we were all grilling, feeling it all the more because it had come so quickly. Such a number of people came to see us off, amongst them Colonel and Mrs. P. and their daughters. What touched me even more was that our servants and dependants of all sorts crowded on to the platform to see their master for the last time; dear old Wazir, the chuprassie, whose parting prayer was that God might very soon make the master a 'lord saheb'; our good syee, who sat down and wept when he knew we were going away; and many others whom we were very sorry to leave behind us. We had taken a reserved 2nd class carriage, and the advantage of this was great, for once in it at Jullundhur, we were able to stay in it till we reached Quetta, though by rights we ought to have had two changes; and when you think of the piles of things we required to take in the carriage, passing as we did from the heat of June to the cold of an early March, you will understand what a comfort it was to feel that we would not be disturbed. The journey was extremely interesting all through, and began in a somewhat exciting way. At Lahore, which we reached at 9, T. and I turned out for dinner, leaving the babies asleep, and old E. (the nurse) putting our beds straight. On coming back we found that our carriage was being shunted on to another train, and we stood on the platform watching it. As it came up, we saw old E. trying to soothe the tiny one, who had been frightened out of her senses by the yelling and screeching of demoniacal engines. They joined that carriage on in the clumsiest way imaginable, and as it collided violently with the rest of the train, I had the alarming sight of poor E., with baby
in her arms, thrown violently off her feet on to the floor of the carriage. Thank Heaven, my dear C. was not hurt; but she was simply terrified, and sobbed with fright when she had nestled into my arms.

"The next event was that poor dear stupid bearer got left behind! He is the first servant we had in India, and although you could scarcely find a more stupid man in many ways, he is really good and faithful, and we would not be without him for worlds. As we steamed out of Lahore, he was left dancing about wildly on the platform. (I may as well give the sequel here, which is, that he followed us the next day, and arrived in a state of devout thankfulness to the divinity that had guarded him through the perils of the journey.)

"The next adventure might have been a very serious matter for all of us, me especially. After we got out at Lahore, we all settled down to sleep, worn out with our exertions. It was cool now, and all the windows of the carriage were wide open, with a fairly cold wind blowing in. I was asleep in a twinkling, so indeed were all of us, when suddenly T. awoke with the feeling that there was more light in the carriage than there ought to be. Imagine his horror, when he looked across at me, and saw my bedding in a blaze, close to my feet, I soundly sleeping. A spark from the engine, in which wood was used, had fallen on my rezai (quilt), and the flames were leaping up about my feet and dress. One minute more, and they would have been too much for us. T. woke me, and together we managed to squeeze out the fire a good deal, though not entirely. He rushed into the lavatory, and turned on the tap, but there was no water. Our relief was inexpressible when we soon felt the train lessening speed, and we stopped at a station. I held the bedding out of the window, while T went to tell them to bring water. We could not help smiling even in the midst of the bustle, when they kindly brought us a tumbler-full! But by means of threats we at last induced the station h好事 (water-carrier) to bring his musak, and drench the bedding. I have lost my rezai, but on the other hand I came off with a whole skin, and sincere thankfulness that things had not been a great deal worse.

"On Thursday morning we reached Mooltan; then all day long we were toiling through the sand and blazing heat of the Scind desert, to Sukkur, which we reached in the evening at sunset. Here there is a wonderful bridge across the Indus, which we had already seen 2½ years ago, on our journey from Karachi to Lahore. The scene is very Indian; groups of date palms, stretches of grey sand, grey native houses, here and there a string of camels going across the desert, a beautiful mosque covered with quaint mosaic work on a hill overlooking the river, where you see queer native punts moving lazily along. It was very picturesque, I thought, with the red light of the sunset over it all, and we were able to enjoy it more as now it began to be a little cooler. Through the night we went from Sukkur to Sibi, and from Sibi up and
over and through the wonderful brown rocky hills, in the midst of which is the quaint town, our new home. I wish I could give you any adequate description of this last part of our journey. Soon after Sibi we came up to the hills, and the railway began to rise, and all day we were winding along through the most amazing scenery, past great cliffs of solid rock or granite, that towered up high over us, or perhaps along the face of a crag that overlooked a great chasm. At one part T. called to me to come and look, and there, high up above us we saw a wonderful bridge spanning a rent that seemed to have been made through the very heart of a rocky hill. We could hardly conceive it possible that we were to cross it, but, true enough, there went the marvellous railway, up and up, till it travelled through the mountain, crossed the narrow bridge, and so on, in darkness again, through the other half of the mountain. We were lost in amazement! At another part, the train had to go down hill, and to break the impetus, the line took a loop, returning to the point it had started from, but several feet below. We hung out of the carriage almost speechless! We were hardly so absorbed, however, as not to notice how delicious the air was becoming, every hour more cold and bracing. It feels far out of the world up here, high up as we are, 5,511 feet above the sea. For this to be considered a plain station is a piece of good fortune which does not come in everybody's way! We were grilling, as I said, in muslin dresses at Jullundhur, while here I am in my thickest winter dress, and yet feel cold. I am sure we shall like the place, and soon we are going into the sweetest little home, quite a tiny place compared to the dear old place at Jullundhur, but much more like an English house, with pretty windows and doors that can really shut. After a few months, however, we shall have to turn out, as Government is going to rebuild it.
INDIAN SOIREE.

On Tuesday, June 14th, a Soirée of the National Indian Association, which was largely attended, took place (by kind permission) at the Northbrook Indian Club, Whitehall Gardens. Among those present, were the Earl of Northbrook; Lady Lyall; Lady Meade; Sir William Moore, K.C.I.E.; Mr. T. H. Thornton, C.S.I.; Mrs. Carmichael; The Director of Public Instruction, Madras, and Mrs. Grigg; Dr. Edith Pechey Phipson and Mr. Phipson; Mr. and Mrs. Arthur Brandreth; Mr. and Mrs. Charles Hawksley; Mr. and Mrs. Sheppard; General Pollard; Surgeon-Lieutenant-Colonel and Mrs. Hendley; The Master of St. Catherine's and Mrs. Peile; Lady McClintock; Mr. and Mrs. Percival; Mr. M. M. Bhownaggree, C.I.E.; Tsawbwa Tsaw Khé; Dr. and Mrs. Fitch; Mr. and Mrs. P. L. Roy; Mrs. Pinhey; Mr. and Mrs. Chester Macnaghten; Miss Buss; Dr. Charlotte Ellaby; Mrs. Marshall, M.D.; Mr. and Mrs. Antrobus; Mrs. Branson; Mrs. Scott; Mr. and Mrs. Reily; Mr. and Mrs. Armine Willis; Mrs. Dasai; Mr. J. B. Knight, C.I.E.; Dr. and Mrs. Palmer; Mr. and Miss Sircar; Mr. Alex. Rogers; Miss Blanche Smith; Miss F. Cama; Miss D. F. Banajee; Miss M. Vakeel; Mr. and Mrs. Archibald Rogers; Mr. Ram Singh; Mr. Geflowski; Mr. M. Shafi; Mr. Ackland Hunt, and many others connected with India. Two ladies, Mrs. Pheroze Langrana and Miss Gardiner, kindly contributed by excellent singing, to the interest of the evening. On no previous occasion had so many Parsee ladies been present, several having recently come to England for medical and other studies; these wore the graceful Parsee saree. There were also two ladies from Bengal and one from Siam, and young men students from most parts of India, some of whom appeared in Eastern dress.
The Allahabad Review for April, of which Mr. M. Hamid-Ullah is Editor, gives a full account of the ceremony of laying the foundation stone of the proposed hostel for the boarding of Mussulman Students at the Allahabad Muir College. The stone was laid on March 11th by the Lieutenant-Governor, N.W.P., Sir Auckland Colvin, K.C.M.G., K.C.S.I., who is much interested in the undertaking. It is intended that the new building shall consist of a central hall with library, dining-room, &c., on the west side, and blocks of students' quarters—each block containing ten rooms on the north and south sides of the enclosure. A spacious platform was arranged as a dais, covered by an embroidered canopy, and some Shamianas had been put up which were tastefully draped and decorated with ferns and foliage. About a thousand visitors and the College students assembled before 8.30 a.m., and a number of distinguished Raises, both Hindu and Mahomedan, came from a distance for the occasion. On Sir Auckland Colvin's arrival, he was met by the Mussulman Boarding House Fund Committee, and a richly-printed address was read and presented to his Honour on a salver of Lucknow workmanship. The foundation stone was now laid with the ordinary formalities, and the Lieutenant-Governor afterwards gave his reply to the address. He explained that the new building would meet the want of suitable dwellings, felt by the Mahomedan Students at the Muir College, and by bringing these young men together under one roof, it would be easier to maintain discipline among them than if they were scattered about the station in various bungalows. Sir Auckland Colvin spoke of the great interest with which he watched the growth of the Mahomedan community of the Provinces. He urged its members to adapt themselves to the times in which they live; the Mahomedan of the present day has not to retain the fierce and fanatical spirit of his ancestors, but to apply the same energetic qualities, the courage and the endurance, which once distinguished him in war, to the battlefields of civil and social reforms, to the subjugation of ignorance and apathy and bigotry. He hoped that the boarding house would become a centre of tolerance and enlightenment, and that it would be the pioneer of many similar institutions. A large sum has already been collected towards the Rs. 30,000 required for the building.

The death of Sir Henry Harrison, of cholera, during his visit to Chittagong, has been widely lamented. The following notification, in reference to this sad event, appeared in the Calcutta Gazette:
"The Lieutenant-Governor announces with profound regret the death by cholera at Chittagong, on the 5th May 1892, of Sir Henry Leland Harrison, Knight, Senior Member of the Board of Revenue, and Member of the Bengal Legislative Council. After a distinguished University career, Sir Henry Harrison joined the Indian Civil Service in 1860. He early attracted the attention of Government, and was appointed Junior Secretary in 1867. For nearly six years he was Magistrate and Collector of the important district of Midnapore, and acquired the reputation of being one of the best district officers in Bengal. He then served as Secretary to the Board of Revenue, and for a short time as Secretary to Government. In April 1881 he was appointed Chairman of the Corporation and Commissioner of Police, Calcutta. For nine years he discharged the duties of this difficult office in a manner which won for him the approval of Government and the esteem and respect of the public. His name will always be associated with a period of greatly improved Municipal administration, and his public services to Calcutta constitute a large part of the history of the Metropolis during the past decade. In April 1889, he was appointed a Member of the Board of Revenue. The news of his sudden death, while visiting the district of Chittagong, in the discharge of his duties as a Member of the Board, will be received with universal sorrow. This calamitous event has deprived the Lieut.-Governor of one of his most trusted advisers, the Civil Service of one of its most distinguished ornaments, and the province and people of Bengal of one of their truest friends."

We have received an interesting account of the meeting of the Ramabai Association, held at Boston, U.S.A., on March 11th, and presided over by Rev. E. E. Hale. The various "Circles" appear to have kept up their interest in the Sharada Sadana at Poona, but an appeal was made for increased contributions, as Ramabai's Home now contains 43 pupils, two-thirds of whom are dependent upon the American supporters of the institution. The Philadelphia Circle have raised an additional sum of 60 dollars for the purchase of Kindergarten material sufficient for 30 pupils, as the Pundita is now opening a training school for Kindergarten teachers at the Home. A report from Ramabai was read at the meeting, from which we give the following extract: "This year has seen us happy possessors of a home of our own. This great event in our short history is second to none except to the establishment of the Sharada Sadana. Your great kindness and unparalleled generosity has made it possible for us to get a place where we can lay our heads, and we thank you from the bottom of our hearts for giving a house to our school. The Sharada Sadana, which only three years ago was looked upon as nothing but a castle built in the air by crack-brains, may now be counted among many living realities resting upon very good foundation. All of us are very happy over it, and look forward with great pleasure to the day when our school will be taken into the new house, after the necessary additions and
repairs, &c., are finished. We hope (d.v.) to celebrate the fourth birthday of our school in the new house. The house, as it stands now, is good, and has about two and three-fourths acres of ground. It consists of two separate bungalows, one to be used as the sleeping-room for the girls, and the other as the school, besides the spacious out-houses, cook-rooms, dining-rooms, &c. But it has no accommodation for the resident teachers, and for new girls who come to us desiring admission in the school. It is, therefore, very necessary to build another small bungalow on the grounds in front of the already-existing house. We need to have a fencing wall all round our compound or open ground, and another dormitory for the pupils, besides a dining-room and cook-room for the resident teachers, who may not take their meals with the high-caste Hindu girls. These new additions and repairs will take some time, but we are doing our best to get them done quickly and cheaply. The internal work of the school is going on in very much the same way as it was in the last year. The pupils' progress in their studies is very satisfactory. I am glad to say they are advancing in moral training, also. Their several natures are getting to be more and more unselfish and sweeter than ever, and their manners quite refined. The girls are very anxious to do their part of the work, and take pains to build up their character. They are now beginning to feel that they owe a duty, not to themselves only, but they owe it also to their God, and mankind in general. They are kept well informed of what is going on in the outer world, and they feel they are no more the isolated individuals they used to be, that even the Hindu widow has some relation and owes a duty to the world, that there are many good people who take interest in them, that they also ought to take an interest in others. . . . We have added a new department to our school since last October. A Kindergarten training-class has been started, which is making good progress. Fourteen pupils and two teachers have joined the class. We may now hope to see a real Froebel Kindergarten in connexion with the Sharada Sadana, in which the pupils who are being trained now will have ample opportunity to practise what they learn.

At Guntur, in the Krishna District, Madras, the corner stone of a new Hospital for Women and Children was lately laid in connexion with the American Lutheran Mission. Contributions were secured towards this object by Dr. Anna Kugler, the medical officer of the Mission, and Miss Dryden, who superintends its girls' schools, during their recent visit to the United States, and a large sum was also collected there by the Rev. Dr. Uhl, the head of the Mission. Dr. Anna Kugler and Mr. K. Appaya Deckshutula Garu, B.A., made eloquent appeals for a sufficient sum to surround the hospital and dispensary with stone walls, in order to preserve the necessary seclusion. It is hoped that this sum will be subscribed in the district, to which the hospital will prove of very great value.
We are glad to learn, from a letter in the *Tribune*, that various methods of curtailing the heavy expenditure usual at marriages and deaths have been agreed to by a Society of Sikhs at Sialkot. Fireworks, the distribution of sweetmeats at weddings, and the scattering of almonds among the crowd at the death of an old man are to be given up. It is further intended to discuss later the subject of Female Education in the same Society.

We mentioned in January last that Mr. D. P. Cama had offered to erect a drinking fountain in North Kensington if the Vestry would supply it with water. Mr. Cama's generous gift was accepted, and the drinking fountain, which is of grey polished granite, has now been set up very near the residence of the donor. It will prove very useful to the inhabitants of the district.

We are glad to hear that the Queen has graciously intimated her willingness to accept a copy of the "Letters from Mandalay," by the late Rev. James Colbeck, now in the press. The Marquis of Dufferin and Ava, and the Marquis of Ripon are among the subscribers to the book, which refers to the reign of King Thibau, and the campaign of 1885-88.
PERSONAL INTELLIGENCE.

In the Mathematical Tripos of the University of Cambridge, Part I., the following students' names appeared in the Class Lists: Mallik (St. Peter's), Wrangler (bracketed 22); Deshpande (St. John's), Senior Optime (bracketed 50); Datta (Emmanuel), Senior Optime (bracketed 51).

In the Classical Tripos, A. Ghose (King's) passed in Class I., Division 3.
In the Law Tripos, Ramsinhji (Trinity) passed in Class III. (bracketed).
In the Historical Tripos, Nawab Syed Mohi-Uddin (Trinity) passed in Class III.
In the Natural Sciences Tripos, Miss N. H. Bonnerjee passed in Class II.
In the Indian Languages Tripos, Mahdi Hassan (Downing) passed in the Second Class; S. N. Husain and Prabh-Dial (non-collegiate) in the Third Class.

In the Previous Examination, Part I., Kajiji (Downing) passed in the Third Class, and T. J. Desai (Christ's) in the Fourth Class. In Part II., Seth passed in the Third Class. In the Additional Subjects, Aftab Khan (Christ's), J. N. Kaul (St. John's), and P. P. Meherjee (Downing) passed in the Second Class.

At St. Peter's College D. N. Mallik has been re-elected to a Scholarship of £50; and at Emmanuel, M. Yusuf has been awarded an Indian Civil Service Exhibition of £20.

The Council of Legal Education have awarded to the following students certificates that they have satisfactorily passed a Public Examination: Inner Temple.—Nasar-wanji Jamshedji Dady; Ali Ahmed Hassanally; Ardeshir Dhnunjbhoy Patel; Roda Mull Quanagoe; Philip R. Valladares. Middle Temple.—Ali Hosein Khan; William A. N. Battenburgh; Purnanand Mahamand Bhatt; Dady Hormusji Dadabhoy. Lincoln's Inn.—Arathoon Sett.

The following have passed a satisfactory Examination in Roman Law: Inner Temple.—Hafiz Muniruddin Ahmed; Syed Hassan El Medini; Bomanji Ratanji Bomanji. Middle Temple.—Kamal Krishna Shelley Bonnerjee; Mohammed Abdul Gaffoor; Murzban Muncherji Murzban; Kirpal Singh; Furdoonji Sorabji Jehangir Taleyarkhan. Lincoln's Inn.—Maneckji Pestonji Asavaid; Nehal Chand; Syud Mir Muhtashim Husain.

The following were the results of the Easter Examination at the Royal Indian Engineering College, Cooper's Hill: In Forestry, 2nd year, C. C. Medivalla stood 9th, and K. C. Amin 11th. In Engineering, 1st year, De Silva stood 1st, and M. R. Kharegat 11th.
The following presentations were made at the Levée held on May 12, by H.R.H. the Duke of Connaught and Strathearn, on behalf of her Majesty, in addition to those recorded last month: Mr. J. R. Jayakar, Mr. M. P. Srivastava, Mr. M. Nujmal Huda, Mr. Pundit Mohan Lal, Mr. Roda Mull Guanagoe, Mr. Harprasad Singh Gour, Mr. Manekji Pesianji Modi. (All by the Political A.D.C. to the Secretary of State.)

At the Levée held on May 30th, by H.R.H. the Duke of Edinburgh on behalf of her Majesty, the following were presented: Mr. D. M. Colah Darabji Pesianji Cama, and Mr. Manakchand Jaini. (By the Political A.D.C. to the Secretary of State.)

At the Levée held on June 13th by H.R.H. the Duke of Connaught and Strathearn, on behalf of her Majesty, the following presentations were made (by the Political A.D.C. to the Secretary of State): Mr. Lakshmi Das Sawhny, Mr. Gurdas Ram Sawhny, Mr. Bakshi Jaishi Ram, Mr. Jugul Kishore Singh, Syed Humayun Mirza.

Kumar Shri Runjitsinhji (Trinity) played this term at Cambridge in the Seniors' Match, and played for the "Next Sixteen" in the "First Twelve v. Next Sixteen."

His Grace the Archbishop of Canterbury has been pleased to confer on Archdeacon K. Koshi, of the Diocese of Travancore and Cochin, South India, the Degree of Doctor of Divinity, on account of his services as a chief revisor of the New Testament in Malayalam, the vernacular language of Travancore—a work in which he is still engaged.

The Archdeacon is, we believe, the third native of India on whom this distinguished honour has been conferred. The fees payable to the Archbishop's Legal Secretary on such occasions are rather heavy. Dr. Koshi's friends have collected the sum required, and have also presented him with the proper Doctor's Hood.

Arrivals—H.H. the Maharaja Gaikwar of Baroda, H.H. the Maharani Chimnabai Sahiba, and two children, a brother of his Highness, and suite; Mr. Moinuddin Vakil, from Hyderabad, with Mr. S. Hassan and Mr. S. Hosein; Miss Dhunbai Furdoonji Banajee, from Bombay, for continuing her study of painting; Mr. J. C. Sarkar, and his daughter, from Oude; Raja Shiam Sinha; Mr. N. J. Readymohey; Mr. J. M. Vacha; Mr. K. A. Ghasvala; Surgeon C. C. Vaid; Mr. N. C. Mody; Mr. Gokal Chand Bhadwar; Mr. D. V. Kirtane; Mr. C. R. Bhakle; Mr. J. C. Choudhuri.

Departures.—Mr. Nurallah Shah; Mr. Nujmal Huda; Mr. Mahomed Ahmed; Mr. Ali Hosein Khan; Mr. F. C. Mehta.
NATIONAL INDIAN ASSOCIATION.

Founded by Miss Carpenter in 1871.

OBJECTS OF THE ASSOCIATION.

To extend a knowledge of India in England, and an interest in the people of that country.
To co-operate with all efforts made for advancing education and social reform in India.
To promote friendly intercourse between English people and the people of India.

METHODS OF WORKING.

1. Diffusing information on Indian subjects by the publication of a monthly Magazine, and by Lectures.
2. Grants in encouragement of education in India, scholarships, gifts of books to libraries, prizes for schools, &c.
4. Superintending the education of young Indian students in England.
5. Encouraging the employment of Medical Women in India.
6. Affording information and advice to Indians in England, and aiding them in any objects connected with the aims of the Association.
7. Soirées and occasional excursions to places of interest.

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In all the proceedings of the Association the principle of non-interference in religion is strictly maintained.

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Persons desirous of becoming Members of the National Indian Association should apply, in regard to election, to the Hon. Secretary, or to any member of the Council.

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A payment of ten guineas (or of an equivalent sum in rupees) constitutes the donor a Life Member.

Members are entitled to attend the Meetings of the Association, and to receive the Indian Magazine & Review, which is published monthly.

Soirées are held occasionally, invitations to which are issued to members and others at the discretion of the Committee.

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