

Educational (189⁸) Department

ORDINARY MS.

G.O., No. 156.

Dated 10. 3. 98.

20/4
11/9/98

EX 2

[Despatch Abstract.]

Informing the Govt dept that the Govt regrets its inability to accept Mr Sewell's suggestion that the study of Indian Chronology should be introduced into the Examinations qualifying for Govt appointments.

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

[Ed. 6]
1,000-5-2-97.

Educational (1890) Department.

CURRENT No. 233

From

Sec. Juana C. De R

For Order

Mr. Sewell suggests that
the Study of Indian Chronology
and especially South Indian Chronology
should be introduced into the
examinations for Govt appointments.
It is submitted that the Com-
missioner for U.C.S. examinations
may be asked his opinion
as to the advisability of intro-
ducing such a technical subject
into the examinations for
Govt appointments.

Dated 17 February 1898

Received

Registered

Enclosures

Spare copies.

SUBJECT.

Regarding The Indian Calendar
throughout the year 1898.
Dikshitar & Robert Sewell.

8th met I think
with a polite negative.
That as I submit
Enough subjects already.

AT
23rd

Yes
6/13/98
of Public's Mind (Tupac) as a first book for the
Edu
13-2-98

BACK PAPERS.

G.O.	No.	Department.	Date
	838	31-7-96	R. Final
	420	22-4-96	R. a
	1047	21-12-95	Copy Final
	217	17-2-98	Final R

FURTHER PAPERS.

G.O.	No.	Department.	Date.

422 : 31-5-92 hr
 784 : 9-8-90-92
 842 : 15-5-90-92
 2117 of 89 copy 92
 650 of 89 copy 92
 2452 of 88 copy 92

4to, Price 31s. 6d. nett.

THE INDIAN CALENDAR;

WITH TABLES FOR THE CONVERSION OF HINDU AND MUHAMMADAN INTO A.D. DATES, AND VICE VERSA.

BY
ROBERT SEWELL,
Late of Her Majesty's Indian Civil Service,

AND
SANKARA BALKRISHNA DIKSHIT,
Training College, Poona.

WITH TABLES OF ECLIPSES VISIBLE IN INDIA,

BY
Dr. ROBERT SCHRAM,
Of Vienna.

The work contains complete tables for the verification of Hindu and Muhammadan dates for a period of 1,600 years (A.D. 300 to 1900), and forms the first attempt to carry out in practical form the exact fixation of the astronomical phenomena on which the Hindu Calendar depends, and without which no conversion of dates into European reckoning can be safely relied upon. It embraces the whole of India. The calculations have been based on the general tables published by Professor Jacobi, of Bonn, checked and enlarged by processes invented by Mr. S. Balkrishna Dikshit. The precise position of sun and moon at sunrise on the meridian of Ujjain on the first day of each year of the Luni-solar Calendar during the period referred to is given, and for the Solar Calendar the moment of the sun's passing the first point of Aries in each year is entered in time reckoning. Full details for the addition and suppression of months in the intercalary Luni-solar years are provided; and, where necessary the calculations have been made for true as well as mean intercalations. The solar phenomena have, moreover, been computed by both the Arya and Sūrya Siddhāntas. Tables giving the correspondence of months and years in all the Hindu reckonings are provided. There is thus a mass of important information recorded, while a set of auxiliary tables enables the exact moments of the beginnings and endings of tithis, nakshatras, and *yogas*, to be computed by a simple process. The tables are preceded by a complete and exhaustive treatise on the subject. Dr. Schram, of Vienna, has given valuable assistance to the authors by providing them with a table of solar eclipses visible in India. The volume is now accepted by the scientific world as a standard work of reference, and should be in daily use in all courts and offices in India.

Some Opinions of the Press.

"Although during the last ten years several excellent essays have been published on the subject, the verification of Hindu dates is often still considered a task of great intricacy, to be approached only by people who possess an intimate knowledge of Indian astronomy. If those who hold such an opinion will devote a few hours' study to the work which we now owe to the painstaking industry of Mr. Sewell and Mr. Dikshit, they will see how greatly they are mistaken, or will, at any rate, admit that the two authors have removed whatever difficulty hitherto has seemed to surround the matter of which the work treats. This new work naturally divides itself into two parts. The first part gives a clear account of the Hindu and Muhammadan calendars, and of the various eras and cycles which have been, or are still, used in different parts of India, interspersed with some valuable remarks on the astronomical writings of the Hindus. The second, more extensive part contains 136 pages of tables for the conversion of Hindu and Muhammadan dates into the corresponding European dates, and *vice versa*, and for the calculation of the *nakshatras*, *yogas*, and other items, sometimes quoted in Indian dates. It also fully explains the construction of the tables, and gives examples to show the working of them. In an appendix the well-known astronomer, Dr. R. Schram, of Vienna, besides, furnishes a list of the solar eclipses likely to have been visible in India during the period to which the work refers (*i.e.*, from A.D. 300 to A.D. 1900), with tables by which it is extremely easy to ascertain whether (the greatest phase of) a solar eclipse was visible at a given place in India, and at what time of the day it took place there. The additions and corrections, among other things, contain Mr. Dikshit's rules and tables for calculating Jupiter's apparent (or true) place, the necessity for which has probably been suggested by a number of South Indian dates, lately published. That this work is the outcome of an immense amount of patient labour, is self-evident; and, judging from the tests which I have applied, it may well be trusted for the accuracy of its statements."—Dr. KEILHORN, in the *Indian Antiquary*.

"A most useful volume to every official, scholar or merchant who is connected with the East. It is difficult to apportion the praise between the learned and practical authors and the enterprising publishers, who have enriched Oriental research with a contribution without which the puzzle as to dates often renders enquiries contradictory or fruitless. . . . The *magnum opus* before us deserves, and we hope will receive, a far more ample review than we are now giving it."—*Asiatic Quarterly Review*.

"In this country the calendar is—or, rather, seems to be—a very simple matter. Being based upon the solar year, it merely requires the adjustment of an intercalary day for leap-year. But the complications that may be introduced by a lunar year will be familiar to those who have ever considered 'the several days' Easter may possibly fall upon.' India, on the other hand, has not one calendar, but several, which are all founded upon most elaborate astronomical calculations. For ordinary purposes this does not cause so much practical

difficulty as might be supposed, though it affords a good opportunity for display to native mathematicians. There are, however, two occasions when accurate chronology is of the first importance: in determining the dates of ancient inscriptions and of modern legal documents, in which latter class we may include the age of candidates for examinations. It is for use in these inquiries that the present work has been compiled. Of the joint authors, Mr. Sewell is well-known, not only as an active member of the Civil Service, but also as the most devoted Mahratta Brahman. Between them they have produced a work of painful research, which will be appreciated only by the small band of professed Indianists."—*Academy*.

"A valuable and accurate work that should be on the table of every intelligent Indian official."—*Athenaeum*.

"The tables contained in this work have been most carefully compiled, and must be the result of great labour on the part of the authors. The way in which they are presented reflects the greatest credit both on the authors and on the publishers."—*Journal of the British Astronomical Association*.

"Although to many persons the chief interest of this publication (which must have cost the authors an amount of labour simply enormous) will be in an antiquarian and historical point of view, it has another aspect, judicial and practical, which was the immediate cause for its appearance. Documents bearing dates prior to those given in any existing almanac are often produced before Courts of Justice in India as evidence of title; and as forgeries, many of which are of great antiquity, exist in abundance, it is necessary to have at hand means for testing and verifying the authenticity of such documents when brought forward. Prof. Jacobi, Dr. Schram, and others have within the last ten years thrown much light on the subject of the Indian methods of time-reckoning; but as their labours are only to be found scattered in scientific periodicals, the results are not readily accessible to officials and others to whom they are of importance in enabling them to determine questions in which the calendar, or rather calendars, observed in different parts and amongst the different peoples of that vast territory known as India, play an important part."—*Nature*.

"Under the title of 'The Indian Calendar,' Messrs. R. Sewell, I.C.S. (Ret.), and Pandit Sankara Balkrishna Dikshit, of Poona, have published an elaborate work to establish in practical form the exact occurrence of the astronomical phenomena on which the Hindu Calendar depends. The chief and most important use of the work is the conversion of any Indian or Muhammadan date into the corresponding date A.D. and *vice versa* from A.D. 300 to 1900, and finding the week-day of such date. For this purpose certain tables and the rules for using them are given, and with the assistance of these any person without the least trouble can work out the calculations in a few minutes. . . . The names of

Pandit Sankar B. Dikshit, Dr. R. Schram, and Mr. Robert Sewell are too well known to the readers of the *Indian Antiquary* and the *Epigraphia Indica* by their valuable contributions on Indian chronology and other subjects that they do not require any introduction from us to the public, especially to the antiquarian and public. The first gentleman is the highest authority in Hindu astronomy and chronology. Mr. R. Sewell, who laboured in our midst for the last twenty-five years, has always been the most earnest student of Indian chronology, and possessed the shrewdest eye to detect the Hindu intellect in astronomical calculations and to benefit by it whenever he discovered sterling merit. In 1881 he brought out his 'Chronological Tables'; about 1890 or 1891 he, with the help of the Government of Madras, enlarged the same by adding to it the labours of the late Mr. W. S. Krishnaswamy Nayudu Garu, who was also one of the best authorities on matters relating to the Hindu *Panchang*; and this year Mr. Sewell, with the assistance of two of the highest intellects on the subject, the Hindu the 'Indian Calendar'. Attempts on a humble scale to convert the Hindu dates to corresponding dates of the Christian era, were once or twice made in Southern India by the late Mr. Krishnaswamy Nayudu and others. Though often correct, they were also often wrong by one day, and occasionally by two. But it is always the difference of one single day that establishes the date of an inscription to be wrong, especially if it relates to eclipses or other auspicious occasions. When this is borne in mind it needs not to be said that the work before us has supplied a real want. (Government, scholars, students and historians must find this book of invaluable help in their various transactions and researches.) To its intrinsic merits, the publishers have added those of good type and fine paper, and the get-up of the whole work with its many tables is excellent.—*Madras Mail*.

"La chronologie de l'Inde semble imaginée à dessein pour plonger les indianistes dans le désespoir: tantôt elle fait entièrement défaut, et il faut y suppléer par des artifices et des combinaisons arbitraires, tantôt elle se décide à parler et son langage est une série d'énigmes; ou l'ère n'est point précisée, et le choix flote indécis entre les multiples comptes en usage; ou l'ère est indiquée, mais le point de départ en est inconnu; ou les indications astronomiques, prodigieuses avec une apparente surabondance, exigent, pour être contrôlées, l'épreuve de divers systèmes qui se disputent depuis longtemps la faveur des auteurs d'almanachs indous; les uns suivent l'Arya siddhanta, les autres par le Surya siddhanta; les uns comptent par l'année éconclue, les autres par l'année présente; les uns fixent le commencement en Chaitra, là en Kārtika, les autres à la nouvelle lune; ici l'année commence au mois à la pleine lune. Une dernière chance reste à courir: la précision des données n'est parfois qu'un trompe-l'œil destiné à dissimuler un faux. Archéologue et fonctionnaire du service civil, également rompu à sa double profession, M. Sewell a voulu mettre entre les mains de ses confrères un instrument commode de recherche et de vérification; il s'est adjoint un collaborateur indigène, M. Sankar Dikshit, qui a déjà fait ses preuves et jouit, même en Occident, d'une légitime autorité. Inspiré de deux tendances, l'ouvrage les satisfait également l'une et l'autre: il enseigne à la fois des méthodes expéditives qui permettent d'obtenir, sans

grand effort et sans dépense de temps, des résultats approchés, et aussi des méthodes délicates, mais simples et clairement exposées, qui assurent des résultats rigoureusement précis. Un exposé substantiel et lucide de la théorie indienne du calendrier, une série de définitions exactes sans pédantisme des termes techniques essentiels à ce système (Nithis, karanas, yugas, etc.), introduit sans effort le novice au maniement des tables. J'ai moi-même constaté par ma propre expérience la netteté et la sûreté des formules. Grâce aux auteurs de l'Indian Calendar, c'est un jeu désormais de fixer la correspondance des dates indiennes, chrétiennes et musulmanes; le nombre effrayant de calculs qu'ils ont eu la charité de faire ne mérite pas seulement l'admiration, mais encore la reconnaissance. Le complément fourni par M. Schram n'est pas moins précieux; les éclipses de soleil sont une époque particulièrement propice aux donations, et la mention de ce phénomène insérée dans une inscription peut servir à en préciser la date; mais les calculs des éclipses sont en général laborieux et réclament des connaissances spéciales. Les tables de M. Schram simplifient considérablement la difficulté; on peut, sans être mathématicien, constater si une éclipse donnée était visible en un point donné de l'Inde. Le gouvernement de Madras, qui a pu apprécier déjà les services de M. Sewell, accueillera sans doute avec la même satisfaction que les indianistes une publication entreprise sur sa demande expresse."—SYLVAIN LÉVI, in the *Revue Critique*.

"The important part played in recent times by epigraphy in the study of Indian history, and the great complexity of the 'Indian Calendar' and the ways of dating inscriptions have created a need for the appearance of a work which should facilitate the work of students who have no special mathematical training. Messrs. Sewell and Shankar Bākrishna Dikshit in their admirable book have fully supplied this constant requirement of Indian philology. Indian astronomy attracted the particular attention of specialists in the very earliest days of the study of Sanskrit literature, and a fairly close acquaintance with it was not unknown even in the times when the monuments of ancient India were still a closed book to Europeans, that is towards the close of the XVIIIth century. Astronomical data it might be possible to find some basis for a chronology in India, which could not be laid down in other ways. But when it began to become more and more palpable that astronomy, as a science, was borrowed by the Indians from the Greeks, and that at a rather late period, the interest in the study of Indian astronomy somewhat slackened, and the practical results which might be obtained from this study as regards history and epigraphy became the first consideration. The first detailed manipulation and systematization of the data on this point was the work of Professor Jacobi, while a full and complete study of the subject is given in the book now under our notice. Our space does not allow us to dwell at great length here upon the interesting chapter about the numerous eras which were in use, or still are in vogue, in India; the chapters on the tables and their use leave nothing to be desired as regards their clearness and the simplicity of the explanations given. We have no doubt that Messrs. Sewell and Dikshit's book, published with their usual accuracy and elegance by the well-known firm of Swan Sonnenschein and Co., will find a place on the study-table of every Indian scholar.—*Journal of the Imperial Archaeological Society of Russia*.

4to. Price 10s. 6d. nett.

AS AN APPENDIX TO "THE INDIAN CALENDAR" will shortly be published—

ECLIPSES of the MOON from A.D. 300 to 1900,

By ROBERT SEWELL.

This small volume of about 64 pages completes the author's work on Indian Chronology, and is intended as a Supplement to the "The Indian Calendar." The latter work contained all the Tables necessary for determining the Indian solar eclipses, but did not deal with eclipses of the moon. This information has now been supplied.

LONDON:

SWAN SONNENSCHN & CO., LTD.

PATERNOSTER SQUARE.

1897.

ORDER FORM.

Please forward me.....copy of SEWELL & DIKSHIT'S
"INDIAN CALENDAR," as described in the above prospectus at
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OF THE MOON—A.D. 300 TO 1900," as described in the above
prospectus at 10s. 6d. nett, for which I enclose cheque for £.....

Name.....

Address.....

Messrs. SWAN SONNENSCHN & CO., Ltd.,
Paternoster Square, London, E.C.**PROCEEDINGS OF THE MADRAS GOVERNMENT.**

Read again G.O.No.1047, Financial, dated 21st Decr. 1895.

" " R 420, " 32nd April 1896.

" " R 838, " 31st July 1896.

Read also the following:—

From Mr. Robert Sewell, Indian Civil Service (Retired), London, dated 16th December 1897:—

I have the honour - in reference to my last letter regarding the work brought out by Mr. S. B. Dikshit and myself under the Title of "The Indian Calendar", and in continuation of Madras Government Proceedings (Financial) No. 345, dated April 27th 1895 - to enclose 5 copies of a Prospectus just issued containing a summary of criticisms on the book, written by scientific men who are themselves well acquainted with the subject.

2. You will observe that it has met with general approval, and I am glad to be able to say that in no quarter has the slightest doubts been expressed as to its accuracy. As to its simplicity I beg to specially refer you to the opinion of Professor F. Kielhorn, perhaps the greatest living authority on the subject, and Professor Sylvain Levi of the College de France, Paris. The latter observes - and this precisely emphasizes the result I was so anxious to attain - that the publication has rendered it for all future time a mere amusement to fix the correspondence of Hindu Muhammadan and Christian dates, while he attests the precision and accuracy of our methods.

3. May I now refer you to paragraph 5 of my letter under

4. The volume in question contained all that was necessary for chronological purposes, with the one exception that eclipses of the moon were not touched. These are just as important, of course, for testing the genuineness or falsity of all old documents as are the eclipses of the sun, and as soon as the labour of bringing out the "Indian Calendar" was at an end I started work on this branch of the subject, and have now completed all the necessary calculations. These are based on von Oppolzer's "Canon der Finsternisse", the standard Tables for all astronomical purposes for the meridian of Greenwich, and I have prepared my List for Indian purposes for the meridian of Lanka. I have also worked out the days of the week on which the eclipses occurred, and added a column giving the Saka year and ~~era~~ ordinary month for Hindu Calendars. Professor H.H. Turner of the University Observatory, Oxford, has most kindly furnished me with the necessary correction-Tables for ϕ latitude and longitude, so that now the exact moments of beginning, greatest phase, and end of every Lunar eclipse from A.D. 300 to 1,900 for any place in India can be ascertained with the greatest ease and with absolute accuracy.

5. I would therefore confidently place this work before your Government with the request that it will be pleased to permit me to direct my Publishers to send you the same number of copies as were ordered for the "Indian Calendar", viz 200, with a view to the distribution of them to those offices which received copies of the larger work. The lunar eclipses are, of course, as essential for Government purposes as the solar.

Sent

Senart, Professors Buhler, Kern, Jacobi, Serge d'Oldenburg, Cordier, Sayce, de Gubernatis, Baron Textor de Ravisi, M. Barth, and many others, - representing the highest Oriental scholarship at Paris, Vienna, Leyden, Bonn, St. Petersburg, etc. I do not mention this from any spirit of self-laudation, but in the order that the Government may thoroughly understand the scientific value of the work I have now carried through the completion.

7. If I might venture on a suggestion for extending the usefulness of the books I would note that it is possible that clerks in courts and offices may at present, from ignorance of the subject, be somewhat frightened at its apparent difficulty. If the study of the Indian Chronology and specially South Indian Chronology were introduced (optionally) into the examinations for Government appointments, there would soon be at least one clerk in every office well grounded in the subject, and able to use the Tables with facility, so that the genuineness of a document presented as evidence could be at once tested. The matter is rather so intricate as it looks. It is grievous to think how many forgeries may have passed muster in important cases, merely because there was no one at hand competent to test the date.

O. R. D. W. E.:-R No. 217, dated 17 February 1898.

Mr. Sewell's letter and its enclosure will be referred to the Honourable the Judges of the High Court with the request that they will be so good as to favour the Government with their opinion as to whether it would be advisable to procure and distribute copies of the supplementary volume to the Indian Calendar entitled "Eclipses of the Moon from A.D. 300 to 1900" in the same manner as the original publication.

2. The request in the concluding paragraph of Mr. Sewell's letter will be transferred to the Educational Department.

(True Extract)
A. C. G. G. G.
for Chief Secretary
(copies of enclos.)

To the Hon. the Chief Justice of the High Court (with C.O.D.)
Educational Department.
with spare copies of enclos.)

AP
14/2/98

under reference, in which I attempt to show how important it is that this work should be generally introduced into all offices in India. The volume in question contained all that was necessary for chronological purposes, with the one exception that eclipses of the moon were not touched. These are important, of course, for testing the genuineness or falsity of all old documents as are the eclipses of the sun, and as soon as the labour of bringing out the "Indian Calendar" was at an end I started work on this branch of the subject and have now completed all the necessary calculations. These are based on von Oppolzer's "Canon der Finsternisse", the standard Tables for all astronomical purposes for the period of 3000 years, and I have prepared my list for Indian purposes for the period of 1000 years. I have also worked out the days of the week on which the eclipses occurred, and added a column giving the day of the week and the ordinary month for Hindu Calendars. Professor H. R. Turner of the University Observatory, Oxford, has most kindly furnished me with the necessary correction-tables for a latitude and longitude, so that now the exact moments of beginning, greatest phase, and end of every lunar eclipse from A.D. 300 to 1900 for any place in India can be ascertained with the greatest ease and with absolute accuracy. I would therefore confidently place this work before your Government with the request that it will be pleased to permit me to direct my Publishers to send you one copy and a number of copies as were ordered for the "Indian Calendar", viz 300, with a view to the distribution of them to those offices which received copies of the larger work. The lunar eclipses, of course, are essential for Government purposes in the solar.

8. This new volume completes the entire work, and every thing necessary for the correct elucidation of dates in old documents is now presented in the simplest possible form. I should like to add that I have had the highest opinion expressed as to the value of the book by such authorities as

Papers to be read in Proceedings:—

Again G.O., No.	, dated	189 .
Again G.O., No.	, dated	189 .
Current No. 233	of 1898, dated 17 th Feb	, from the Final Sept.
" "	" 189 , "	" "
" "	" 189 , "	" "

Seay

ORDER. No 156 g 10-3-98

The Govt regrets that Mr. Sewell's suggestion that Indian Chronology should be introduced into the examinations for Govt. Appointments cannot be accepted.

(from order)

a.c. 9.3.98

M 8/3/98

As the Govt regrets his inability to accept Mr. Sewell's suggestion, that the study of Indian Chronology should be introduced into the examinations for Govt. Appointments.

The Final Sept 98

14/3/98

10/3/98

General, Professor Müller, Kohn, Jacob, Sarge d'Almeida, Cordier, Seve, de Gubernatis, Baron Tuxor de Ravat, and many others, - representing the highest Oriental scholarship at Paris, Vienna, Bonn, St. Petersburg, etc. I do not mention this from any spirit of self-laudation, but in the order that Government may thoroughly understand the scientific value of the work I have now carried through the completion.

If I might venture on a suggestion for extending the usefulness of the books I would note that it is possible that clerks in courts and offices may be present, from ignorance of the subject, be somewhat frightened at the apparent difficulty. If the study of the Indian Chronology were introduced (especially South Indian Chronology) into the examinations for Government appointments, there would soon be at least one clerk in every office well grounded in the subject, and able to use the tables with facility. So that the genuineness of a document presented as evidence could be at once tested. The matter is not nearly so intricate as it looks. It is obvious to think how many forgeries may have passed muster in important cases, merely because there was no one at hand competent to test the date.

O.M.D.E. No. 217, dated 17 February 1898.

Mr. Sewell's letter and his signature will be referred to the Honorable and Judges of the High Court with the request that they will be so good as to forward to the Government with their opinion as to whether or not it would be desirable to procure and distribute copies of the supplementary volumes to the Indian Calendar entitled "Epochs of the Moon from A.D. 500 to 1900" in the same manner as the original publication. The request in the concluding paragraph of Mr. Sewell's letter will be transferred to the Honorable and Judges of the High Court.

(True Copy)

For Chief Secretary

copies of copies.

To the Hon. the Chief Justice of the High Court (with G.O.) (with Honorable Department.)

When given for copying 10/3
When copied 11/3
When examined 11/3
When signed 1892

READ AGAIN G.O., No.
189

DATE

CURRENT No.

ENCLOSURES TO G. No

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LETTER OF GOVERNMENT

STATEMENT WITH DITTO.

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