15

ON CHRONOLOGY

AND

THE CONSTRUCTION OF THE CALENDAR

WITH SPECIAL REGARD TO THE

CHINESE COMPUTATION OF TIME COMPARED WITH

THE EUROPEAN

by

Dr. H. Fritsche

Director emeritus of the J. Russian Observatory at Peking; Author of the works: «The Climate of Eastern Asia», «Resultate aus astronomisch-geographischen, erdmagnetischen und hypsometrischen Beobachtungen, angestellt an mehr als tausend verschiedenen Orten Asiens und Europas in den Jahren 1867—1883» etc. etc. etc.

St. Petersburg.

Lithographed by R. LAVERENTZ, Liteinaja 38

1886.

Дозволено цензурою.
С. Петербургъ 15 Сентября 1886 г.

Contents

Corrigenda and remarks.

1. page 3 and 4 table (3) №. 3, 15, 51 for Yin [illegible] read 寅
2. page 6 the Chinese characters for leu and pi in table (5), not clearly lithographed, can be verified by help of table (7) page 10 №. 16 and №. 19
3. page 6, 16th line from below for Chow read Chou.
4. page 8, second line from below for $\cos\beta' \sin\lambda' = \sin\delta' \sin\alpha' \cos\varepsilon + \sin\delta' \sin\varepsilon$ read $\cos\beta' \sin\lambda' = \cos\delta' \sin\alpha' \cos\varepsilon + \sin\delta' \sin\varepsilon$.
5. page 10 table (7) №: 20 for tsui 胔 read tsui 觜.
6. page 10 table (7) №. 24 for lieu read lieu.
7. page 13, 7th line from below for 9th March read 8th March.
8. page 14, 14th line from below for 9th March read 8th March.
9. page 14, 13th line from below for 14 days read 15 days.

Remark:

Christian year, Before Christ	Julian date of the Vernal equinox Paris midnight	Christian year Anno Domini	Julian date of the Vernal equinox Paris midnight
−2400	April 10,9d	0	March 22,8d
−2000	" 7,7	+400	" 19,7
−1600	" 4,5	+800	" 16,5
−1200	" 1,3	+1200	" 13,4
−800	March 29,1	+1600	" 10,4
−400	" 25,9	+2000	" 7,3

This table holds good for Julian leap years (of 366 days); for common years of the form $4n+1$ is to be added 0,25d
" $4n+2$ " " " 0,50
" $4n+3$ " " " 0,75

Thus, for instance will be, according to our table, the Julian dates of the vernal equinox for the years

45 B.C.	325 A.D.	1882 A.D.
March 23,4	March 20,5	March 8,7
or March 23 10h A.M.	March 20 noon	March 8 5h P.M.

10. page 14, 15th line from above for 1600, 2400 A.D. read 1600, 2000 and 2400 A.D.
11. page 23, 11th " " " fartherst read farthest.
12. page 27, 15th line from below the letter c is not clearly lithographed.
13. page 43, 5th " " " $2^h 5^m$ is not clearly lithographed.
14. page 46, 4th " " " $\frac{\sin 1'' \sin d_1}{2 \cos d_1} x^2$ is not clearly lithographed.

15. page 69 second " " above month V June 24 " " "
16. page 69 12th line from below month VII August 24 " " "
17. pag. 75–92 For „Dynastic Title or Miao-hao" read „Temple Name or Miao-hao".
18. page 84, 7th line from below, for Tei-ti read Fei-ti.
19. page 85, 14th line from above, for Kai-houng read Kai-hoang.

1. Preface.

The following treatise „On Chronology and the Construction of the Calendar with special regard to the Chinese computation of time compared with the European" I have originally written for the instruction of Chinese students in the Peking Tung-wen College and afterwards enlarged so that it could be useful also for those occupied with Chinese litterature and Chinese affaires.

The information on the Chinese Calendar I have mostly obtained from Chinese sources viz: Wan-nien-shu (Ten thousand year's Calendar), from Chinese Calendars for the last years, from astronomical Ephemerides of Sun, Moon and greater Planets and other publications of the Kin-tien-kien (the astronomical Board at Peking); further from Chinese star-maps of the heavenly sphere (published for instance in the great Chinese work Ta-tsin-hui-tien i.e. the Dictionary of the Manchu Dynasty) etc.

The comprehension of these sources has been rendered easier by the study of an excellent treatise by the celebrated Chronologiste Ideler „Die Zeitrechnung der Chinesen."

The astronomical calculations are made partly from my own methodes, partly taken from other sources. The formulae for calculating the Lunar-eclipses are those, given by the astronomer Littrow, for calculating the Solar-eclipses those of Gauss, communicated in the celebrated work of Professor Dr. A. Sawitsch „Practische Astronomie"; and the formulae for calculating the places of the Stars for remote times those of Professor Encke, communicated by Prof. Dr. Foerster in „Berliner Jahrbuch für 1866".

The chronological table of the Chinese dynasties and emperors has been arranged by W. Hagen Esq. of the Chinese Legation at St. Petersburg with assistance of Wang-pheng-kiu Esq.

As it was impossible to procure types for the Chinese characters, occurring at many places of the text, I was put in the necessity, to publish this work by way of lithography, by which, to my regret, has somewhat suffered its appearance, but I hope, that this circumstance will not diminish the real value of the work.

St. Petersburg, July 1886.

2. Introduction.

Time is measured by observing the position of the heavenly bodies. Units of time are periods, that is intervals of time, after the lapse of which the same order of things returns. In astronomy the fundamental, invariable unit of time is the sidereal day i.e. the period, during which the earth revolves once about its axis, measured by help of two successive returns of any fixed star to the meridian, the motion of the fixed stars depending only upon the daily rotation of the earth about its axis and not, like that of the sun and its satellites, upon the progressive advance of the earth in its orbit round the sun.

The position of the sun, moon and planets is determined by comparing them with that of the fixed stars and thus the mean solar day is fixed by help of the sidereal day. The mean solar day is the average of all the solar days throughout the year and exceeds the sidereal day by an average difference of four minutes. Since the solar days are not equal in length, the sun's motion in its apparent orbit and distance from the equator being different in different seasons, the apparent or real solar day does not exactly coincide with the mean solar day.

The duration of the longest apparent (real) solar day is $24^h 0^m 30^s$ mean time, and that of the shortest $23^h 59^m 39^s$ mean time; in consequence of all this the mean and apparent solar days commence only 4 times a year (about 14 April, 14 June, 31 August and 23 December) at the same absolute moment, the small differences between the mean and apparent solar day producing, by summation from day to day, that both kinds of days begin at different absolute moments during the whole year, except only on the above mentioned 4 days.

This difference between the commencement of the mean and apparent day or between mean and apparent time is called the Equation of time and its absolute greatest value is 16 minutes.

In the Calendar of all nations without exception, the fundamental unit is the solar day, because the sun is the source of all forces displayed on our planet, whether mechanical, chemical or vital. All other periods of time or so called cycles, applied as units of time, for instance the week, the synodical month, the tropical year, the cycles of 60 years, 60 days etc. are composed of the solar day and its subdivisions.

For this reason we will next occupy ourselves with the cycles, used in the Chinese and European Calendars.

The Chinese have from a very early date composed nearly all their cycles only of two elementary cycles, one of ten, and the other of twelve members. The names of the decimal-cycle or the ten stems are:

十天干 Table (1)

No.		
1.	Kiah	甲
2.	Yih	乙
3.	Ping	丙
4.	Ting	丁
5.	Wu	戊
6.	Ki	己
7.	Kêng	庚
8.	Sin	辛
9.	Jên	壬
10.	Kwei	癸

and the names of the duodecimal-cycle or of the twelve branches:

十二地支 Table (2)

No.		
1.	Tsze	子
2.	Ch'ow	丑
3.	Yin	寅
4.	Mao	卯
5.	Ch'ên	辰
6.	Sze	巳
7.	Wu	午
8.	Wei	未
9.	Shên	申
10.	Yeo	酉
11.	Sü	戌
12.	Hai	亥

When combining these stems and branches two by two, beginning with Kiah-Tsze and repeating both series until both commence at the same time, the same combination returns, after the decimal cycle has been repeated six times and the duodecimal cycle five. Thus we obtain the following sexagesimal cycle, called Kiah-Tsze:

六十甲子 Table (3)

1744
1924

No.			No.		
1.	Kiah-Tsze	甲子	8	Sin-Wei	辛未
2.	Yih-Ch'ow	乙丑	9.	Jên-Shên	壬申
3.	Ping-Yin	丙寅	10	Kwei-Yeo	癸酉
4.	Ting-Mao	丁卯	11.	Kiah-Sü	甲戌
5	Wu-Ch'ên	戊辰	12.	Yih-Hai	乙亥
6.	Ki-Sze	己巳	13.	Ping-Tsze	丙子
7.	Kêng-Wu	庚午	14.	Ting-Ch'ow	丁丑

15.	Wu-Yin	戊寅
16.	Ki-Mao	己卯
17.	Kêng-Ch'ên	庚辰
18.	Sin-Sze	辛巳
19.	Jên-Wu	壬午
20.	Kwei-Wei	癸未
21.	Kiah-Shên	甲申
22.	Yih-Yeo	乙酉
23.	Ping-Sü	丙戌
24.	Ting-Hai	丁亥
25.	Wu-Tsze	戊子
26.	Ki-Ch'ow	己丑
27.	Kêng-Yin	庚寅
28.	Sin-Mao	辛卯
29.	Jên-Ch'ên	壬辰
30.	Kwei-Sze	癸巳
31.	Kiah-Wu	甲午
32.	Yih-Wei	乙未
33.	Ping-Shên	丙申
34.	Ting-Yeo	丁酉
35.	Wu-Sü	戊戌
36.	Ki-Hai	己亥
37.	Kêng-Tsze	庚子
38.	Sin-Ch'ow	辛丑
39.	Jên-Yin	壬寅
40.	Kwei-Mao	癸卯
41.	Kiah-Ch'ên	甲辰
42.	Yih-Sze	乙巳
43.	Ping-Wu	丙午
44.	Ting-Wei	丁未
45.	Wu-Shên	戊申
46.	Ki-Yeo	己酉
47.	Kêng-Sü	庚戌
48.	Sin-Hai	辛亥
49.	Jên-Tsze	壬子
50.	Kwei-Ch'ow	癸丑
51.	Kiah-Yin	甲寅
52.	Yih-Mao	乙卯
53.	Ping-Ch'ên	丙辰
54.	Ting-Sze	丁巳
55.	Wu-Wu	戊午
56.	Ki-Wei	己未
57.	Kêng-Shên	庚申
58.	Sin-Yeo	辛酉
59.	Jên-Sü	壬戌
60.	Kwei-Hai	癸亥

3. The Solar day.

Europeans in civil life and in their Calendar reckon the mean solar day from midnight to midnight and divide it into 24 equal parts, called hours. The hours after noon are 1h P.M., 2h P.M. .... 12h P.M. or midnight and the hours after midnight are 1h A.M., 2h A.M. .... 12h A.M. or noon. Every hour is divided into 60 minutes and every minute into 60 seconds. European astronomers begin the day with noon and count the hours uninterruptedly from 0 till 24, adding to the hour the letter "h". The European astronomical date therefore is the same as the European civil date during the afternoon (from noon until midnight), whilst during the morning (from midnight until noon) the civil date is greater by one than the astronomical.

The Chinese originally divided the solar day into 12 equal parts, designating these parts successively by the characters of the duodecimal cycle. In their Calendar, dating nearly 3000 years ago, as now they commence the day with midnight, as the Europeans do in their civil life, in the middle of the chinese hour Tsze. That the Chinese in their Calendar and civil life commence the day exactly with midnight and not with any other time near midnight as 11ʰ P. M. or 1ʰ A. M. may be easily proved by reference to the Chinese Calendars and Ephemerides, published by the astronomical board at Peking, where the first day of the month is sometimes erroneously marked, when the Newmoon happens near midnight. (cf. chapter 17).

Every chinese hour, called Shi 時, is again divided into two equal subdivisions, distinguished from each other by the additions of Ch'uh 初 and cheng 正 to the characters of the duodecimal cycle. Finally every chinese hour contains 8 equal parts, called K'eh 刻, every K'eh being equal to 15 minutes. The following table exhibits the order, in which these divisions of time are arranged, with their subdivisions corresponding to the European solar hours:

Table (4)

Tsze - ch'uh	11ʰ P.M.	子初
Tsze - cheng	Midnight	子正
Ch'ow - ch'uh	1ʰ A. M.	丑初
Ch'ow - cheng	2 A. M.	丑正
Yin - ch'uh	3 A. M.	寅初
Yin - cheng	4 A. M.	寅正
Mao - ch'uh	5 A. M.	卯初
Mao - cheng	6 A. M.	卯正
Ch'ên - ch'uh	7 A. M.	辰初
Ch'ên - cheng	8 A. M.	辰正
Sze - ch'uh	9 A. M.	巳初
Sze - cheng	10 A. M.	巳正
Wu - ch'uh	11 A. M.	午初
Wu - cheng	Noon	午正
Wei - ch'uh	1 P. M.	未初
Wei - cheng	2 P. M.	未正
Shên - ch'uh	3 P. M.	申初
Shên - cheng	4 P. M.	申正
Yeo - ch'uh	5 P. M.	酉初
Yeo - cheng	6 P. M.	酉正
Sü - ch'uh	7 P. M.	戌初
Sü - cheng	8 P. M.	戌正
Hai - ch'uh	9 P. M.	亥初
Hai - cheng	10 P. M.	亥正

4. The Week.

In the European Calendar we have a period of seven days, which we call a week. The days bear in English the names of Sunday, Monday, Tuesday, Wednesday, Thursday, Friday and Saturday. The Egyptians were the first people, who probably regarded the week as sacred to the heavenly bodies: the Sun, the Moon, Mars, Mercury, Jupiter, Venus and Saturn.

Although this period of seven days is not used in China, it is mentioned in the Chinese Calendar and the days are designated by help of the characters of the 28 Moon-stations (Su 宿), the meaning of which we will explain below [cf. table (7)].

Table (5).

Sunday	has the characters	fang	房	hiü	虛	mao	昴	sing	星
Monday	"	"	sin	心	wei	危	pi	畢	chang	張
Tuesday	"	"	wei	尾	she	室	tsui	觜	y	翼
Wednesday	"	"	Khi	箕	pi	壁	tsan	參	chen	軫
Thursday	"	"	teu	斗	Kuei	奎	tsing	井	kio	角
Friday	"	"	nieu	牛	leu	婁	Kuei	鬼	Kang	亢
Saturday	"	"	niü	女	wei	胃	lieu	柳	ti	氐

It is not known, when this cycle in Chinese chronology is first mentioned. Confucius has called it t'sih (seven) and said, that it had existed since the beginning of the Dynasty of Chow (1122 B.C.).

The period of time, properly deserving the name of the Chinese week, is that of 60 days, designated by the above mentioned 60 characters of the sexagesimal cycle Kiah-Tsze. In the Shu-King and Chun-tsieu we already find every important event stated not only by the indication of the emperor's name and year and the month and day of the month, but also by the name of the day in this sexagesimal cycle.

And therefore, as the days of the sexagesimal cycle are counted uninterruptedly through all centuries and do not depend upon complicated calculations, the Chinese historical data possess a high degree of exactitude and certainty, that is often wanting in the ancient records of other countries.

In Section 11. we append a table, by help of which it is easy to find the day of the Chinese sexagesimal week, corresponding with the first of January in the Julian Calendar.

5. The Month.

The month of the European Calendar is a higher unit of the solar day, arbitrarily chosen, however nearly equal to one synodical month, varying between 28 and 31 days or nearly equal to the time employed by the sun in passing through one of the 12 signs of the zodiac.

The 1th	European	month	is called	January and has always 31 days			
The 2th	"	"	"	February and has 28 days in a common year and 29 days in a leap year			
The 3th	"	"	"	March and has always 31 days			
The 4th	"	"	"	April	"	"	30 "
The 5th	"	"	"	May	"	"	31 "
The 6th	"	"	"	June	"	"	30 "
The 7th	"	"	"	July	"	"	31 "
The 8th	"	"	"	August	"	"	31 "
The 9th	"	"	"	September	"	"	30 "
The 10th	"	"	"	October	"	"	31 "
The 11th	"	"	"	November	"	"	30 "
The 12th	"	"	"	December	"	"	31 "

The European and corresponding Chinese names of the 12 signs of the sun's orbit, each containing 30°, are:

Table (6)

European	Chinese name (The 12 branches)	
The Ram	Sü	戌
" Bull	Yeo	酉
" Twins	Shēn	申
" Crab	Wei	未
" Lion	Wu	午
" Virgin	Sze	巳
" Balance	Ch'ēn	辰
" Scorpion	Mao	卯
" Archer	Yin	寅
" Goat	Ch'ow	丑
" Water-carrier	Tsze	子
" Fishes	Hai	亥

The Chinese divide the ecliptic into 24 equal parts, called tsie-khi 節氣; every tsie-khi therefore contains 15° of the ecliptic and two of them are equal to one sign of the zodiac and as the Sun makes a whole revolution of 360° in 365,2422 solar days, it remains in every tsie-khi on an average 15,22 days and in two tsie-khi or in one sign of the zodiac 30,44 days. The same number of solar

days, viz. 30,44, is the mean length of the twelve months in the European Calendar.
The Chinese month is the synodical month, commencing with the New-Moon's day and lasting until the day of the next New-Moon. A synodical month or a lunation being on an average equal to 29,53059 mean solar days, is nearly one day less than two tsie-khi or one European month of 30,44 days on an average. As to the months of every chinese year — the common year consisting of 12 lunations as well as the leap year consisting of 13 lunations — always only 12 names, never 13 names are used, the intercalary lunation bearing the same name (number) as the antecedent lunation, the characters of the sexagesimal cycle Kiah-Tsze, which are added in the chinese Calendar also to the months, turn back after five chinese years.

In the annexed table (7) are inscribed the Chinese and European names of the 28 Moon-stations or Moon-stars, and also their positions on the heavenly sphere on the 1 January 1850 A.D., determined by their rightascension and declination or by their longitude and latitude. Besides these data there are added the annual precession and its secular variation in rightascension and declination, this being necessary for calculating the rightascension and declination at any other given time not very remote from 1850 A.D.

The longitudes of all stars increase each year about 50,2 seconds in arc, but the latitudes scarcely alter.

For the calculation of the exact value of the rightascension α' and declination δ' of a star at any time T between say 1700 A.D. and 2000 B.C. from its given rightascension α and declination δ at 1800 A.D. the following formulas, exhibited in the work „Berliner astronomisches Jahrbuch für 1866" may be used.

$$tg.\, N = \frac{tg.\, \delta}{cos.(\alpha + A)}$$

$$tg.(\alpha' + A') = tg(\alpha + A)\frac{cos.\, N}{cos.(N + \vartheta)}$$

$$tg.\, \delta' = tg.(N + \vartheta).cos.(\alpha' + A')$$

A, A' and ϑ to be taken from the table (I).

In the same table is also noted the obliquity of the ecliptic ε for the time 2000 B.C. until 1700 A.D., so that from α' and δ' can be found also the longitude λ' and latitude β' of the star corresponding to the time T (to which α' and δ' belong) by means of the formulas:

$$cos.\beta' cos.\lambda' = cos.\delta' cos.\alpha'$$
$$cos.\beta' sin.\lambda' = sin.\delta' sin.\alpha' cos.\varepsilon + sin.\delta' sin.\varepsilon$$
$$sin.\beta' = -cos.\delta' sin.\alpha' sin.\varepsilon + sin.\delta' cos.\varepsilon$$

or

$$tg.\,n = \frac{tg\,\delta'}{\sin.\,\alpha'}$$

$$tg.\,\lambda' = \frac{\cos.(n-\varepsilon)}{\cos.\,n}\,tg.\,\alpha'$$

$$tg.\,\beta' = tg.(n-\varepsilon)\,\sin.\,\lambda'$$

Table (I)

T	A	A′	ϑ	ε
+1700	179° 21′,6	180° 38′,3	0° 33′,4	23° 28′,7
+1600	178 43,3	181 16,7	1 6,9	29,5
+1500	178 4,9	181 54,9	1 40,4	30,3
+1400	177 26,5	182 33,1	2 13,8	31,1
+1300	176 48,1	183 11,2	2 47,3	31,9
+1200	176 9,6	183 49,2	3 20,7	32,7
+1100	175 31,1	184 27,2	3 54,2	33,5
+1000	174 52,6	185 5,2	4 27,6	34,3
+900	174 14,0	185 43,0	5 1,0	35,1
+800	173 35,4	186 20,9	5 34,4	35,9
+700	172 56,8	186 58,6	6 7,8	36,7
+600	172 18,1	187 36,4	6 41,2	37,5
+500	171 39,4	188 14,0	7 14,5	38,3
+400	171 0,7	188 51,7	7 47,7	39,1
+300	170 21,9	189 29,2	8 21,0	39,9
+200	169 43,1	190 6,8	8 54,2	40,7
+100	169 4,2	190 44,3	9 27,3	41,5
0	168 25,2	191 21,7	10 0,4	42,3
−100	167 46,2	191 59,1	10 33,4	43,1
−200	167 7,2	192 36,5	11 6,3	43,8
−300	166 28,1	193 13,9	11 39,2	44,6
−400	165 48,9	193 51,2	12 12,0	45,4
−500	165 9,7	194 28,5	12 44,8	46,2
−600	164 30,4	195 5,7	13 17,4	47,0
−700	163 51,1	195 42,9	13 50,0	47,8
−800	163 11,7	196 20,1	14 22,5	48,6
−900	162 32,2	196 57,3	14 54,9	49,3
−1000	161 52,6	197 34,4	15 27,1	50,1
−1100	161 13,0	198 11,6	15 59,3	50,9
−1200	160 33,3	198 48,7	16 31,4	51,7
−1300	159 53,6	199 25,8	17 3,4	52,5
−1400	159 13,7	200 2,8	17 35,2	53,2
−1500	158 33,8	200 39,9	18 6,9	54,0
−1600	157 53,8	201 16,9	18 38,5	54,8
−1700	157 13,7	201 54,0	19 10,0	55,6
−1800	156 33,6	202 31,0	19 41,3	56,3
−1900	155 53,3	203 8,0	20 12,5	57,1
−2000	155 13,0	203 45,0	20 43,5	57,9

Table (7), corresponding to 1850 A.D.

No.	Chinese names of the 28 Moon-stars		European names	Magnitude	Longitude	Latitude	Right ascension	Annual variation in Right ascension	Variation in 100 years	Right ascension in degrees	Declination	Annual Precession in Declination	Variation in 100 years	Longitude in Chinese manner	
1	Kio	角	α Virginis	1	201° 46'	−2° 3'	13h 17m 18s	+3,152s	+0,0095s	199° 20'	−10° 23'	−18,93"	+0,152"	Ch'ên	21° 46'
2	Kang	亢	κ "	4	212 23	+2 56	14 4 54	+3,188	+0,0104	211 13	−9 34	−17,15	+0,241	Mao	2 23
3	ti	氐	α Librae	3	223 0	+0 21	14 42 35	+3,311	+0,0136	220 39	−15 25	−15,22	+0,315	"	13 0
4	fang	房	π Scorpii	$3\frac{1}{2}$	240 51	−5 27	15 49 47	+3,612	+0,0164	237 27	−25 41	−10,79	+0,444	Yin	0 51
5	sin	心	σ "	4	245 42	−4 1	16 12 5	+3,632	+0,0139	243 1	−25 14	−9,10	+0,472	"	5 42
6	wei	尾	ε "	3	253 16	−11 42	16 40 28	+3,919	+0,0148	250 7	−34 1	−6,82	+0,538	"	13 16
7	khi	箕	γ Sagittarii	4	269 10	−6 57	17 56 11	+3,856	+0,0007	269 3	−30 25	−0,34	+0,562	"	29 10
8	teu	斗	φ "	$4\frac{1}{2}$	278 5	−3 56	18 36 17	+3,747	−0,0055	279 4	−27 8	+3,16	+0,540	Ch'ow	8 5
9	nieu	牛	β Capricorni	$3\frac{1}{2}$	301 57	+4 37	20 12 35	+3,376	−0,0113	303 9	−15 15	+10,97	+0,412	Tsze	1 57
10	niü	女	ε Aquarii	$4\frac{1}{2}$	309 38	+8 7	20 39 33	+3,252	−0,0102	309 53	−10 2	+12,86	+0,364	"	9 38
11	hiü	虛	β "	3	321 18	+8 37	21 23 40	+3,163	−0,0090	320 55	−6 14	+15,57	+0,291	"	21 18
12	wei	危	α "	3	331 15	+10 40	21 58 5	+3,083	−0,0062	329 31	−1 3	+17,28	+0,228	Hai	1 15
13	she	室	α Pegasi	2	351 23	+19 26	22 57 17	+2,978	+0,0036	344 19	+14 24	+19,31	+0,117	"	21 23
14	pi	壁	γ "	2	7 5	+12 37	0 5 31	+3,079	+0,0080	1 23	+14 21	+20,05	−0,011	Sü	7 5
15	Kuei	奎	ζ Andromedae	4	18 30	+17 37	0 39 24	+3,170	+0,0158	9 51	+23 27	+19,76	−0,079	"	18 30
16	leu	婁	β Arietis	3	31 52	+8 29	1 46 22	+3,289	+0,0164	26 35	+20 4	+17,93	−0,215	Yeo	1 52
17	wei	胃	35 "	4	44 51	+11 18	2 34 40	+3,497	+0,0216	38 40	+27 4	+15,66	−0,319	"	14 51
18	mao	昴	η Tauri	3	57 54	+4 2	3 38 35	+3,548	+0,0160	54 39	+23 38	+11,61	−0,422	"	27 54
19	pi	畢	ε "	$3\frac{1}{2}$	66 22	−2 35	4 19 52	+3,484	+0,0105	64 58	+18 51	+8,49	−0,460	Shên	6 22
20	tsui	觜	λ Orionis	4	81 37	−13 24	5 26 53	+3,300	+0,0027	81 43	+9 50	+2,89	−0,476	"	21 37
21	tsan	參	δ "	2	80 16	−23 35	5 24 21	+3,061	+0,0020	81 5	−0 25	+3,11	−0,441	"	20 16
22	tsing	井	μ Geminorum	3	93 12	−0 51	6 13 53	+3,626	−0,0018	93 28	+22 35	−1,21	−0,528	Wei	3 12
23	Kuei	鬼	θ Cancri	$5\frac{1}{2}$	123 38	−0 47	8 23 2	+3,436	−0,0135	125 45	+18 36	−11,72	−0,407	Wu	3 38
24	lieu	柳	δ Hydrae	4	128 13	−12 25	8 29 43	+3,186	−0,0084	127 26	+6 13	−12,19	−0,369	"	8 13
25	sing	星	α "	2	145 12	−22 24	9 20 13	+2,950	−0,0034	140 3	−8 1	−15,38	−0,276	"	25 12
26	chang	張	υ' "	5	153 37	−26 5	9 44 16	+2,883	−0,0005	146 4	−14 9	−16,64	−0,235	Sze	3 37
27	y	翼	α Crateris	4	171 38	−22 42	10 52 28	+2,948	+0,0046	163 7	−17 30	−19,19	−0,125	"	21 38
28	chen	軫	γ Corvi	3	188 38	−14 29	12 8 6	+3,085	+0,0095	182 1	−16 43	−20,04	+0,016	Ch'ên	8 38

We may conclude, that these 28 Moon-stars are very ancient in Chinese astronomy and existed already about the time of the emperor Yao, from a remark in the Shu-King, according to which at that remote time the sign of spring was the Moon-star, then called niao, at present called sing; the sign of summer the Moon-star, then called ho, at present called fang; the sign of autumn the Moon-star hiu and the sign of the wintersolstice the Moon-star mao, that is, to say, at the time of Yao, about 2300 years B. C., these stars stood at sunset in the meridian, when the corresponding seasons commenced, or, in other words, the difference in rightascension between Sun and stars was nearly ninety degrees or 6 hours.
As the declinations and latitudes of these four Moon-stars, the European names of which are, according to table (7) α Hydrae, π Scorpii, β Aquarii and η Tauri, are slight, their rightascensions increase for a long period yearly by about 3,2 or 0,8 minutes in arc and about 4000 years ago, in the time of the emperor Yao, they were $0{,}8 \cdot 4000 = 3200'$ or $53°$ less than at present. Thus we have:

Table (8)

	Chinese names at the time of Yao	Chinese names at present	European names	Rightascension 1850 A.D.	Rightascension at the time of Yao A	Rightascension of the Sun B	A-B
Sign of spring	niao	sing	α Hydrae	140°	87°	0°	87°
" summer	ho	fang	π Scorpii	237	184	90	94
" autumn		hiü	β Aquarii	321	268	180	88
" winter		mao	η Tauri	55	2	270	92

The difference A-B, calculated for Yao's time according to modern astronomical tables being nearly equal to 90 degrees, proves the truth of the statement in Shu-King and that the Moon-stars were already established and applied by the Chinese about 4000 years ago, in order to determine the seasons.
As the Moon's orbit is inclined to the ecliptic only 5°, the Moon-stars determining the moon's course and position, are all not far from the ecliptic, that is, their latitude is small and the moon's courses during different lunations never deviate much from the ecliptic and from each other. Nevertheless Chinese astronomers distinguish 8 different orbits of the moon, because from one Newmoon, with which the moon's course always commences, to the next Newmoon the place of the Sun among the stars, where the Newmoon occurs, is advanced from West to East about 29 degrees and the Moon, though passing during every lunation near the same 28 Moon-stars, begins its course in the neighbourhood of an other Moon-star, than a month ago and passes the Moon-stars, when in other phases.

6. The Year.

The year of the European nations is the tropical year, that is, the time, which elapses between two successive passages of the Sun through very nearly the same point of the equator. This year is regulated only by the Sun's course, which determines the seasons without any regard to the Moon. When the Sun crosses the equator in the direction from South to North, spring commences, when from North to South, autumn begins; in the exact middle term between these two moments, when the Sun stands farthest from the equator to the North, summer commences, and when farthest to the South, winter. This holds good for the northern Hemisphere; for the southern the order of the seasons is inversed.

The uninterrupted series of these years begins with the year of Christ's birth called 1 A.D. (Anno Domini i.e. in the year of the Lord) or +1. The year immediately before 1 A.D. is called 1 B.C. (before Christ) or −1. The n^{th} year after the beginning of this era is called n A.D. or +n and the n^{th} year before n B.C. or −n, so that the standard-scale of the European (Christian) chronology has the following form:

Table (9)

$-(n+1)$	or	$(n+1)$	B.C.
$-n$	"	n	B.C.
-1	"	1	B.C.
$+1$	"	1	A.D.
$+n$	"	n	A.D.
$+(n+1)$	"	$(n+1)$	A.D.

The difference between two successive figures of the table (9) is always 1, excepting only the difference between the years −1 (1 B.C.) and +1 (1 A.D.), which is 2, therefore between 1 B.C. and 1 A.D. is a discontinuity or a leap.

The years are named as current years and not as elapsed years. Hence, when two dates are given either before or after Christ, for instance:

1 January 500 B.C. or −500
1 " 200 B.C. or −200

and

1 January 500 A.D. or +500
1 " 200 A.D. or +200,

we find the years elapsed between them by subtracting the earlier epoch from the later: in the first case $-200-(-500)=300$, in the second case 500 − 200 = 300.

But, when one of the dates is B. C. and the other A. D., the number of years elapsed between them is equal to the difference between the figures, standing before B. C. and A. D., diminished by 1. For example, the years elapsed between 1 January 500 B. C. and 1 January 200 A. D. is 200 − (−500) − 1 = 200 + 500 − 1 = 699, because the real difference between the years 1 B. C. and 1 A. D. is only 1, whilst in the formula 200 − (−500) or 200 + 500 this difference is reckoned as equal to 2.

As the tropical Solar year is the fundamental year in the European Calendar, the cardinal stations of the Sun in its orbit should always in all centuries coincide with the same days of the series of 365 or 366 days, or with the same days of the same months.

In the year 45 B. C. the Roman emperor Julius Caesar drew up a Calendar, called after him the Julian Calendar or the Old style.

Until this epoch the ancient European and Western-Asiatic nations, the Romans, the Greeks, the Hebrews etc. had regulated their Calendar according to the Lunar-year of twelve months, brought from time to time into accordance with the course of the Sun by the intercalation of a thirteenth month; in a similar manner as the Chinese have done from a very remote period to the present time.

The emperor Julius Caesar, in order to remove the disorder, caused by imperfect intercalation, decreed that the Calendar should be constructed only in accordance with the Sun's course, without regard to that of the Moon.

In the Julian Calendar the length of the tropical year is supposed to be exactly equal to 365,25 days and in the year 45 B. C., the vernal equinox happened about the 23th March.

However, as the exact length of the tropical year is 365,24224 days, the error of the Julian Calendar is in one year 0,00776 days, in 130 years 1,0088 days, in 400 years 3,104 days and in 3600 years 27,936 days, and the Julian Calendar by its uninterrupted intercalations of one day after three common years of 365 days, the years not divisible by 4 without remainder containing 365 and those divisible by 4 containing 366 days, must in 130 years be behind by one day, in 400 years by three and in 3600 years by 28 days.

Thus the Julian date of the vernal equinox, having been in 45 B. C. about the 23th March, is at present about the 9th March and was 325 A. D., at the time of the celebrated council of Nice about the 21 March.

In order to correct the error of the Julian Calendar, which was in the year 1582 A. D. nearly 10 days, Pope Gregory XIII directed, that the 15th of October 1582 A. D. should be written instead of the 5th October 1582 A. D., thus omitting 10 days intercalated in excess during 325 A. D. until 1582 A. D. And further, in order to avoid for the future the systematical removal of the vernal equinox from the 21 March, in the new Calendar, called after Pope Gregory the Gregorian, the following rule was made: Every year, whose number is not divisible without remainder by 4, consists of 365 days; every year, which is so divisible, but not divisible by 100, of 366; every year divisible by 100 but not by 400 of 365 days and every year divisible by 400 of 366 days.

This method of intercalation in the Gregorian Calendar is the same as in the Julian Calendar with this difference, that every 400 years three intercalary days of the Julian Calendar are suppressed in the Gregorian. Thus for instance 1700, 1800, 1900, 2100, 2200, 2300 A.D. are in the Julian Calendar leap years (containing 366 days), but in the Gregorian common years (containing 365 days); whilst in both Calendars the years 1600, 2400 A.D. are leap years. The still persisting error of the Gregorian Calendar will cease to exist, if after 3600 years one leap year has not 366 but only 365 days.

In a leap year of 366 days, the number of days in the twelve months in the same as in a common year of 365 days, excepting February, which consists of 29 days instead of 28 days, as in a common year. The 24th February is regarded as the intercalated day.

The Gregorian Calendar or New style is now accepted by all European nations and the Japanese, except the Russians, the greater part of the Slaves and the Modern-Greeks, who retain the Julian Calendar or Old style and are therefore at present 12 days behind the Gregorian, because the latter has fixed for all time the vernal equinox about the 21th March, whilst at present, according to the Julian Calendar at the time of the vernal equinox it is only the 9th March, having in the period from 45 B.C. until now gone back 14 days from the original date 23 March.

As the Julian Calendar is simpler than the Gregorian and until now has been in use a longer time than the latter and as the Gregorian can be easely derived from the Julian, in historical reaserches the date of the Julian is mostly first determined and by simple corrections that of the Gregorian is then deduced. Thus for instance is the reduction of the Julian Calendar to the Gregorian:

from	1500 A.D. (after February 28)	until	1700 A.D. (until 28 Febr. inclus.)	equal to + 10 days
"	1700 "	"	1800 "	+ 11 "
"	1800 "	"	1900 "	+ 12 "
"	1900 "	"	2100 "	+ 13 "

7. The Solar-cycle.

To every day of the European year there is annexed invariably one of the seven letters A, B, C, D, E, F, G. The first day of the year, the 1 January bears always the letter A, the 2 January B, the 3 Jan. C, the 4 Jan. D, the 5 Jan. E, the 6 Jan. F, the 7 Jan. G, the 8 Jan. again the letter A and so on. Only the days Febr. 24 until the end of this month bear two different letters viz:

	Fbr. 24	Fbr. 25	Fbr. 26	Fbr. 27	Fbr. 28	Fbr. 29
in a common year	F	G	A	B	C	
in a leap year	E	F	G	A	B	C

All years, common and leap years, end therefore with A and begin with A. The leap years end also with A, because the 23 and 24 February of the leap years have the same letter viz. E. The letter, belonging to the first Sunday of the year is called the Dominical letter. A common year of 365 days has only one Dominical letter, holding good for the whole year; a leap year on the contrary has two, one from January 1 until February 23 and another from February 24 until December 31. As a common year consists of $365 = 52.7 + 1$ and a leap year of $366 = 52.7 + 2$ days, it follows, that after a common year the Dominical letter goes back one letter, and after a leap year, two, and that, in the Julian Calendar the Dominical letters return in the same order after a period of $4.7 = 28$ years, or that after the lapse of 28 years the same day of the week by the Julian system returns always to the same day of each month throughout the year. This period is called the Solar-cycle, the first of which is assumed to have been between 9 B.C. and 19 A.D. Therefore the place of any year A.D. in this cycle is the remainder of the division $\frac{9 + \text{year A.D.}}{28}$, or, when T designates the year A.D., m a positive integer or zero and s the remainder

$$s = T + 9 - m.28 \qquad \text{Equation (10)}$$

When $s = 0$, the place of T in the Solar-cycle will be 28; and when T negative or B.C.

$$s = T + 10 + m.28 \qquad \text{Equation (11)}$$

because between the years 1 A.D. and 1 B.C., lying in the first cycle, is a leap of 2 units. Then (when T negative) s will be the remainder of the division $\frac{T + 10}{28}$.

The place in the Solar-cycle and the corresponding Dominical letters of the Julian Calendar are compiled in the following table (12):

Place of the year in the Solar-cycle	Dominical letter	Place of the year in the Solar-cycle	Dominical letter
1	G F	15	C
2	E	16	B
3	D	17	A G
4	C	18	F
5	B A	19	E
6	G	20	D
7	F	21	C B
8	E	22	A
9	D C	23	G
10	B	24	F
11	A	25	E D
12	G	26	C
13	F E	27	B
14	D	28	A

For instance the place of the year 1880 A.D. is the remainder of $\frac{9+1880}{28}$ or 13, hence the Dominical letters, according to table (12) are F E. However these are the Dominical letters of the Julian Calendar. If we desire to ascertain the Dominical letter of the Gregorian from that of the Julian Calendar, then, when the difference between both Calendars is equal to d. days, we advance d-7 letters in the scale A B C D E F G A B C D E F G A B...., starting from the Julian Dominical letter. For example: for the year 1880 A.D. d is equal to 12, therefore d-7 = 5. Counting from the Julian Dominical letter F 5 letters in our scale, we come to D and counting from E 5 letters we come to C, therefore the Dominical letters of the leap year 1880 A.D. in the Gregorian Calendar are D C, that is: January 4 and February 29 are both sundays, because January 1 is always designated by the letter A and February 24 by E.

8. The Lunar-cycle.

As one synodical month or the average time from one Newmoon to the next Newmoon is equal to 29,53059 days and a tropical year (the time from one vernal equinox to the next) contains 365,24224 days, 19 years contain 6939,6026 days and 235 synodical months are 6939,6886 days i.e. the difference between the length of 19 Solar years and 235 Lunations (synodical months) is only 0,086 days or 2 hours. For that reason, supposing the Newmoon to happen at present on the n^{th} day of the year, after the lapse of 19 tropical years the Newmoon will occur again on the n^{th} day of the year, so that, when we know the dates of the Newmoons in the series of the 365 days of the solar year for 19 years, we know the dates of the Newmoons for all other periods of 19 years past and future.

This period of 19 years is styled the Lunar-cycle. As the first year of the first cycle is assumed to be 1 B.C., hence to find the place of a given year A.D. in the Lunar-cycle (or as it is called the Golden number) add 1 to the number T of the given year A.D. and divide by 19; the remainder (or 19, if exactly divisible) is the Golden number g. Therefore, when l is a positive integer or zero, we get

$g = T + 1 - l.19$, T being positive or A.D. Equation (13)

$g = T + 2 + l.19$, T being negative or B.C. Equation (14)

When T is negative, g will be the remainder of the division $\frac{T+2}{19}$.

As one year of 12 synodical months or a common Lunar-year is equal to 12 · 29,530587 = 354,36704 days and one tropical Solar-year consists of 365,24224 days, the Newmoon, when it happens in any year - for instance in the first year of the Lunar cycle - on the first of January (about 10 days after the winter solstice), the next year on the first of January 11 days have already elapsed after the last Newmoon of the past year, the difference 365,24224 − 354,36704 being nearly 11; and after the lapse of a second year the time elapsed since the last Newmoon on the first of January of the third year will be 22 days and after the lapse of a third year 33 or about 3 days and so on. The number of days that have elapsed on the first of January after the last Newmoon is styled the epact e and depends upon the Golden number g by the equations (15):

$e = 11g - n.30$ in the Julian Calendar

$e = 11(g-1) - n.30$ in the Gregorian Calendar during the 19^{th} century

$e = 11g - 12 - n.30$ in the Gregorian Calendar during the 20 and 21^{th} century,

where n an integer.

By help of (15) we find the following corresponding values of the Golden number g and the epact e according to the Gregorian Calendar for the 19^{th} century.

Table (16)

Golden number	Epact	Golden number	Epact
g	e	g	e
1	0	11	20
2	11	12	1
3	22	13	12
4	3	14	23
5	14	15	4
6	25	16	15
7	6	17	26
8	17	18	7
9	28	19	18
10	9		

According to an order of the council of Nice, Easter Sunday was decreed hereafter to be the first Sunday after the fullmoon, that happens first after, or on the day of the vernal equinox, and the 21 of March was to be regarded as the day of the vernal equinox. If the fullmoon occurs on a Sunday, then the following Sunday is Easter Sunday.
The first fullmoon after the 21 March is for ecclesiastical purposes determined not by exact astronomical calculations, but by the epact e, calculated by help of the above mentioned equations, so that, as the epact does not give exact results, there can be a difference between both methodes.
The earliest date of Easter is 22 March, the latest 25 April.
It is obvious, that within one Solar year 12 Lunations mostly occur and in nearly every third Solaryear 13 Lunations, or, to be more exact, of 19 Solar years 12 include 12 Lunations and 7 include 13 Lunations, because $12 \cdot 12 + 7 \cdot 13 = 235$ Lunations = 19 Solar years = the length of the Lunar cycle.

39. The Julian period.

Different nations in different ages of the world have reckoned their time in different ways, beginning from different epochs and it is therefore a matter of great convenience that astronomers and chronologists (as they have agreed on the uniform adoption of the Julian system i.e. the Julian and the corrected Julian or Gregorian Calendar) should also agree on an epoch antecedent to them all, to which, as to a fixed point in time, the whole list of chronological eras can be differentially referred. Such an epoch is the noon of the first of January 4713 B. C., which is called the epoch of the Julian period, a cycle of 19·28·15 = 7980 Julian years, obtained by the multiplication of the numbers of years severally contained in the three cycles: the Lunar and Solar cycle and that of the Indiction. The Lunar and Solar cycles we have already explained, it remains only to explain, what is meant by the cycle of Indiction. The cycle of Indiction or the Roman Indiction is a period of 15 years used in the courts of law and in the fiscal organization of the Roman empire under the emperor Constantine (about 300 A. D.) and his successors, and thence introduced into legal Calendar, as the Golden number, serving to determine Easter, was introduced into the ecclesiastical Calendar.

To find the place of a year in the indiction cycle, add 3 to the number of years T of the Christian era and divide by 15. The remainder (or 15, if 0 remains) is the place of T in the cycle of Indiction or the "Roman Indiction" i.

When therefore n is a positive integer or zero and T positive or A. D., we get

$$i = T + 3 - n.15 \qquad \text{Equation (17)},$$

and when T negative or B. C., we have

$$i = T + 4 + n.15 \qquad \text{Equation (18)}.$$

If T positive or A. D., we have, according to the equations (10), (13), (17):

$$\begin{aligned} g &= T + 1 - l.19 \\ s &= T + 9 - m.28 \qquad \text{Equations (19)} \\ i &= T + 3 - n.15 \end{aligned}$$

and if T negative or B. C., we have, according to the equations (11), (14) and (18):

$$\begin{aligned} g &= T + 2 + l.19 \\ s &= T + 10 + m.28 \qquad \text{Equations (20)} \\ i &= T + 4 + n.15 \end{aligned}$$

For the first year of the Julian period is T negative and $g = s = i = 1$, therefore, according to equations (20):

$$\begin{aligned} T + 1 &= -l.19 \\ T + 9 &= -m.28 \\ T + 3 &= -n.15 \end{aligned}$$

and we find $T = -4713$ as solving these equations, because

$$\begin{aligned} -4713 + 1 &= -4712 = -248.19 \\ -4713 + 9 &= -4704 = -168.28 \\ -4713 + 3 &= -4710 = -314.15 \end{aligned}$$

Consequently, if t denotes the year of the Julian period corresponding to the year T of the Christian era, t and T are connected by the equation:

III

$t = T + 4713$, when T positive or A.D. Equation (21)

$t = T + 4714$, when T negative or B.C. Equation (22)

Thus we get the corresponding values of t and T:

Table (23)

Year of the Julian period t	Year of the Christian or European era T	
+ 1	− 4713	or 4713 B.C.
+ 4713	− 1	or 1 B.C.
+ 4714	+ 1	or 1 A.D.
+ 6593	+ 1880	or 1880 A.D.,

by which we see, that in the Julian period a leap does not take place as in the Christian era between −1 and +1.

It often occurs in history, that the three cycle-years g, s, i are known, but neither T nor t. Then we calculate t by help of g, s, i and the equations

$$t = l'.19 + g$$
$$t = m'.28 + s \qquad \text{Equations (24)}$$
$$t = n'.15 + i$$

where l', m' and n' denote integral figures.
The equations (24) can be derived by substituting equation (21) into (19) or (22) into (20). Multiplying the three equations (24) respectively by 28.15.10, 19.15.17 and 28.19.13 and adding together, we obtain:
$t(28.15.10 + 19.15.17 + 28.19.13) = t(2.7980 + 1) = g.28.15.10 + s.19.15.17 + i.28.19.13 + (l'.10 + m'.17 + n'.13)19.28.15$, therefore, if N an integer,

$$t.2.7980 + t = g.4200 + s.4845 + i.6916 + N.19.28.15$$
$$t.2.7980 + t = g.4200 + s.4845 + i.6916 + N.7980$$

and the required $t = g.4200 + s.4845 + i.6916 - (2t - N).7980$.
From this follows the rule to find the year t of the Julian period by help of the cycle-years g (Lunar cycle), s (Solar cycle) and i (Indiction): divide $g.4200 + s.4845 + i.6916$ by 7980, the remainder will be the year of the Julian period sought.
After having obtained by this method the year t of the Julian period, the year T of the Christian era is easely calculated by help of equation (21) or (22) or table (23).

10. The Chinese year.

The Chinese year is a Lunar year of 12 synodical months (Lunations), brought from time to time into accordance with the course of the Sun by the intercalation of a thirteenth month (Lunation). For this purpose they have from the earliest time (about 2000 B.C.) fixed one of the cardinal-points of the ecliptic viz. the winter-solstice, observing by means of a gnomon (a vertical pillar) the greatest length of the sun's shadow at noon; and before the dynasty of Han they commenced their Lunar-year with the New-moon nearest to the wintersolstice. But since the dynasty of Han (206 B.C.) the Chinese year commences with that Lunation, during which the sun enters the tsie-Khi called Yü Shui or Hai, a point of the ecliptic, distant from the wintersolstice exactly 60 degrees, the longitude of which is 330 degrees.

The entrance of the sun in the sign Hai or Yü Shui occurs, according to the following table (25) always about the 19 February; and as this day is always included in the first Chinese month, the latest date of the Chinese Newyear must be the 19 February and, as the Chinese month has for a maximum 30 days, the Chinese Newyear can not be removed backwards more than 30 days from the 19 February; that is, the earliest date of the Chinese Newyear is the 20 January. Therefore the Chinese Newyear occurs always between the 20 January and 19 February, or between the tsie-Khi Ta Han and Yü Shui; or to be more exact, between the zodiac signs Tzse and Hai, the first sign corresponding to the sun's longitude 300° and the latter to that of 330°. According to the Chinese work, entitled Wan nien shu, in which the elements of the Chinese Calendar from 1624 A.D. until 1921 A.D. are calculated by the astronomical Board at Peking, the earliest date of the Chinese Newyear's day is January 21 and the latest February 20; but these calculations are sometimes not made very exactly (f. i. for the year 1852).

The Chinese division of the sun's course into 24 equal parts, the corresponding European division and the date of the Gregorian Calendar, always coinciding very nearly with these 24 points of the ecliptic, are compiled in the following table (25).

Table (25)

Number of the Tsie-Khi	Chinese names of the Tsie-Khi		Translation of the Chinese names of the Tsie-Khi	Chinese names of the signs of the zodiac	Sun's longitude	European signs of the zodiac	European names for the signs of the zodiac: English	European names for the signs of the zodiac: Latin	Approximate date of the Gregorian Calendar	
1	Li Chun	立春	Commencement of Spring	Tzse	315				February	4
2	Yü Shui	雨水	Rains	Hai	330	♓	Fishes	Pisces	"	19
3	King Chih	驚蟄	Movement of larvae	"	345				March	6
4	Ch'un Fên	春分	Vernal equinox	Sü	0	♈	Ram	Aries	"	21
5	Ts'ing Ming	清明	Clear and bright	"	15				April	5
6	Kuh Yü	穀雨	Grain showers	Yeo	30	♉	Bull	Taurus	"	20
7	Li Hia	立夏	Commencement of Summer	"	45				May	5
8	Siao Man	小滿	Groth of crops	Shên	60	♊	Twins	Gemini	"	21
9	Mang Chung	芒種	Planting crops	"	75				June	5
10	Hia Che	夏至	Summer solstice	Wei	90	♋	Crab	Cancer	"	21
11	Siao Shu	小暑	Lesser heat	"	105				July	7
12	Ta Shu	大暑	Greater heat	Wu	120	♌	Lion	Leo	"	23
13	Li Ts'iu	立秋	Commencement of Autumn	"	135				August	8
14	Ch'u Shu	處暑	Limit of heat	Sze	150	♍	Virgin	Virgo	"	23
15	Peh Lu	白露	White dews	"	165				September	8
16	Ts'iu Fên	秋分	Autumnal equinox	Ch'ên	180	♎	Balance	Libra	"	23
17	Han Lu	寒露	Cold dews	"	195				October	8
18	Shwang kiang	霜降	Hoarfrost descends	Mao	210	♏	Scorpion	Scorpio	"	23
19	Li Tung	立冬	Commencement of Winter	"	225				November	7
20	Siao Süeh	小雪	Lesser snow	Yin	240	♐	Archer	Sagittarius	"	22
21	Ta Süeh	大雪	Greater snow	"	255				December	7
22	Tung Che	冬至	Winter solstice	Ch'ow	270	♑	Goat	Capricornus	"	22
23	Siao Han	小寒	Lesser cold	"	285				January	6
24	Ta Han	大寒	Greater cold	Tzse	300	♒	Water-carrier	Aquarius	"	20

The even tsie-khi, corresponding to the European signs of the zodiac, are called by the Chinese chung-k'hi.
The time, in which the sun passes over two tsie-khi is on an average throughout the year 30,44 days, whilst the interval between one New-moon and the next is only 29,53 mean solar days. For that reason, there must be one lunation, during which the sun does not enter into an even tsie-khi i.e. into one of the twelve signs of the zodiac. This month is the intercalary month and called djun yüö, not having its own number, but that of the previous month.
This intercalary month happens about the time when the sun is fartherst from the earth, or near the aphelium, between April and September (between the Chinese 3th and 8th month), because, when near the aphelium, the sun's motion is slow and it passes over two tsie-Khi or 30 degrees of longitude in 31,5 mean solar days, whilst when near the perihelium, in January (the Chinese 12th month) the sun makes 30 degrees in 29,4 days. In consequence of this arrangement the entrance of the sun in the four cardinal-points of the ecliptic, the Vernal equinox, the Summer solstice, the Autumnal equinox and the Wintersolstice must always occur respectively within the second, the 5th, the 8th and the 11th Chinese month.
In the chapter on the Lunar cycle it is stated, that 19 tropical solar years are equal to 235 synodical months (Lunation) and that $235 = 12 \cdot 12 + 7 \cdot 13$. Therefore the lunar year of the Chinese can be rectified. and brought into accordance with the solar year, when in the course of 19 solar years, 12 years consist of 12 Lunations and 7 years of 13 Lunations, or, if in the course of 19 years, there are 12 common and 7 leap years.
The Chinese leap years are, since some hundred years ago always the third, the 6th, the 8th, the 11th, the 14th, the 17th and the 19th year of the Chinese lunar cycle, which is one behind the European, not being the remainder of $\frac{\text{year A.D.} + 1}{19}$, as the European, but the remainder of $\frac{\text{year A.D.}}{19}$. Hence the Chinese leap years are the 4th, 7th, 9th, 12th, 15th, 18th and 1th year of the European Lunar cycle, or, which is the same thing, the Chinese golden numbers of the leap years are 3, 6, 8, 11, 14, 17, 19 and the European golden numbers 4, 7, 9, 12, 15, 18, 1.
There have been only two exceptions to this rule viz. in the years 1795 A.D. and 1814 A.D., which were leap years with the Chinese golden number 9 instead 8.
For instance the year 1879 A.D., if divided by 19, gives the remainder 17, therefore the Chinese year, corresponding to 1879 A.D., i.e. commencing about Jan.-Fbr. 1879 A.D., is a leap year of 13 Lunations; the next Chinese year, about 1880 A.D., is a common year of 12 Lunations and the following Chinese year, about

1881 A.D., is again a leap year, because the Chinese golden number is 19.

The Chinese were already acquainted with the Lunar cycle many centuries before the Christian era, and had determined by its help the day of the Newmoon. However, as this method of fixing the first day of the month is not exact and can cause an error of some days, they abandoned about 260 years ago this method and substituted in all parts of their Calendar astronomical tables and exact principles.

The bases of all astronomical calculations are the tables, from which can be deduced at any time the position of the sun, moon and planets, and besides this the catalogues of the fixed stars, which have no proper motion or an insignificant one.

As the fundamental tables exhibit only the elements for calculating the position of the heavenly bodies, and as their position change very much with time, these calculations are long and tiresome. For this reason, in our time, in order to facilitate the application of astronomy to practical purposes as well as the advancement of the science itself, every important government prepares an astronomical Almanac for every year, giving for every day or hour of the year the position of the most important heavenly bodies, called ephemerides. One of the best of these works is the Nautical Almanac, edited by the Government of Great Britain and printed in London.

The Chinese astronomers of the present day calculate and print ephemerides for the sun, the moon and the greater planets for every day, such as the Nautical Almanac gives, by means of the fundamental tables, constructed in the 18th century by De Lambre and Mayer, giving the time of the Newmoon and the beginning and end of the eclipses correct within a quarter of one hour.

The method of calculating the time of the Newmoon is as follows: First find an approximative value for the time of the Newmoon by help of the golden number and epact [Table (16)]; then calculate by the fundamental tables the longitude of the sun and moon for this approximate time. If the calculated longitude of the moon exactly coincides with that of the sun, the supposed approximate time will be the exact moment of the Newmoon; if not, the moment of the exact equality of the longitude of the sun and moon can be found by a simple proportion, and is the exact moment of the desired Newmoon.

For example: Required the exact time of the Chinese Newyear in the 31th year of the 75th cycle (14th year of Tao-Kuang).
In the next chapter, in dealing with the comparison of Chinese and European chronological dates, a method is given to find the

year -2637 is 1st year of first cycle
-2577 " " " 2nd "
-2576 is 60th year of 1st cycle / 1933! is 31st year

year T of the European (Christian) era from the Chinese cycles. According to equation (27), when y denotes the place of the year in the c^{th} cycle of 60 years, we have: $T = c \cdot 60 + y - 2697$, hence in our case $T = 75 \cdot 60 + 31 - 2697 = 1834$ A.D.

The Chinese golden number of 1834 A.D. is the remainder of $\frac{1834}{19}$ or 10 and the European golden number $g = 10 + 1 = 11$; therefore, according to table (16) the epact $= 20$, that is: the first Newmoon in 1834 A.D. was 10 January and the second the 8^{th} February. As the Chinese Newyear must happen always between the 21 January and the 20 February, the Newmoon about the 8^{th} February must by the Chinese Newyear. By help of the table (33) below, we find, that the 8^{th} February 1834 A.D. was the 3^{th} day in the Chinese sexagesimal week and called Ping-Yin.

In order to get the exact time of this Newyear, we start from February 8, midnight and calculate from the fundamental tables, according to the simple rules, explained in these tables, the longitude of the sun and the moon. Thus we obtain by help of the old fundamental tables, calculated for the sun by the astronomer De Lambre and for the moon by the astronomer Mayer about 1780 A.D. and probably still used by the Chinese astronomers of the present day,

1834 February 8 12^h Peking-mean time, sun's longitude $319° 30{,}'0$
" 8 12 " " ", moon's longitude $319 \quad 6{,}4$

As at 12^h in the night the moon's longitude had not reached that of the sun, the conjunction or Newmoon happened in the morning of the next Calendar-day, February 9 (in the Chinese sexagesimal week the 4^{th} day, called Ting-Mao). Further, as the sun's longitude hourly increases $2{,}'5$ and that of the moon increases $32{,}'9$, the moon moves quicker than the sun by $30{,}'4$ in 1 hour, therefore the moon has reached the sun $\frac{23{,}6}{30{,}4} = \frac{319° 30{,}0 - 319° 6{,}4}{30{,}4} = 0{,}^h78 = 47$ minutes after midnight.

The required exact time of the Newmoon of the first month in the 31^{th} year of the 75^{th} cycle or the 14^{th} year of the emperor Tao-Kuang, is the 4^{th} day, Ting-Mao, of the Chinese sexagesimal week, 4, 5 days after the tsie-khi Li Chun, in the morning 0 o'clock 47 minutes Peking mean time. The result of this calculation coincides exactly with that of the Chinese astronomers.

When for the year, in which the required Newmoon occurs, there exist an ephemeris such as the Nautical Almanac, the exact Greenwich time of the Newmoon is already calculated in this work. We add only the longitude (if east from Greenwich positive and if west negative) to the Greenwich time and have the required local time of the place. For instance, as the longitude east of Peking from Greenwich is equal to $7^h 45{,}^m9$, we have to add it to the data

of the Nautical Almanac.
From the moon's age, exhibited in the Nautical Almanac we find the Chinese date by help of the simple rule: if the decimal fraction of the age is smaller than 9, add one to the number of whole days of the age; if the decimal fraction equals 9, add two to the number of the whole days of the age; the sum will be the Chinese date (Peking time). For, when the age, according to the Nautical Almanac, e.g. <u>to day</u> at Greenwich noon is $0^d{,}9$, the Newmoon or the 1^{th} Chinese date was a day before at $0^d{,}1$ P.M. Greenwich time or $0^d{,}1 + 0^d{,}32 = 0^d{,}42$ Peking mean time in the afternoon; therefore <u>to day</u>, for which the Nautical Almanac gives the age 0,9, is the second of the Chinese month i.e. we have to add to the integer of 0,9, which is in this case zero, 2, in order to get the Chinese date; the same rule holds good for all following days, for which the age is resp. 1,9 2,9 3,9.... When the Nautical Almanac's age is $0^d{,}0$ or $0^d{,}1$ or $0^d{,}2$ ... or $0^d{,}8$, the Newmoon takes place <u>to day</u> at respectively $0^d{,}32$ P.M., $0^d{,}22$ P.M., $0^d{,}12$ P.M., $0^d{,}02$ P.M., $0^d{,}42$ A.M., $0^d{,}32$ A.M., $0^d{,}22$ A.M., $0^d{,}12$ A.M., $0^d{,}02$ A.M. Peking time, therefore <u>today</u> is the 1^{th} day of the Chinese month and we add only 1 to the integer, belonging to the moon's age.

The calculation of the time, when the sun enters the 24 tsie-khi, can be made either by using the astronomical fundamental tables, or, which is shorter, the Nautical Almanac. For instance: According to the Nautical Almanac for 1880 page 4:

January 5 at noon of Greenwich the sun's longitude $284^\circ\ 35'{,}3$
" 6 " " " $285\ \ 36'{,}5$

therefore the sun's longitude increases $1'$ in $\frac{24}{61{,}2}$ hours and $24'{,}7$ in $\frac{24}{61{,}2}\cdot 24{,}7$ hours or $9^h 41^m$, that is, January 5 at $9^h 41^m$ Greenwich time the sun had the longitude 285° or entered the tsie-khi Siao Han. The Chinese Calendar date of Siao Han will be January 6 $5^h 27^m$ A.M., because they use Peking time, which is $7^h 46^m$ before the Greenwich time, and in the Nautical Almanac commences the day with noon, but in the Calendar with midnight.

Since the entrance of the sun in the 12 signs of the zodiac always occurs about the 21^{th} of the European months and the European date of the Newmoon recedes every year about 11 days or every month nearly one day, the date of the Newmoon must pass the 21^{th} of the European month every two or three years. About this passage we will meet a Lunation, which fullfills the conditions of the Chinese intercalary month. [see Table (25) and the following text]. This, for example, was the case with the 4^{th} Lunation of the year 1879 A.D., because there happened | Mean Peking time

the entrance of the sun in the sign Yeo of the zodiac	April 20 7^h 12^m P.M.
Newmoon	April 21 9 41 P.M.
Newmoon	May 21 1 36 P.M.
the entrance of the sun in the sign Shen of the zodiac	May 21 7 6 P.M.

During the Lunation April 21 $9^h 41$ P.M. until May 21 $1^h 36^m$ P.M. the sun did not enter in a new sign of the zodiac; it was during the whole Lunation in the sign Yeo and had not passed over an even tsie-khi, but only over the odd tsie-khi Li Hia, the 7^{th} tsie-khi of our table (25). For this reason, the Lunation April 21 until May 20 in the Chinese Calendar for the Chinese year, commencing in 1879 A.D., received the No. 3, the same as the antecedent month and was the intercalary month.

The standard scale of the Chinese Chronology is the cycle of 60 years, similar to the Julian period of 7980 years.

The first year of the first sexagesimal cycle was the year 2637 B.C. or −2637 and the 57^{th} year of the 44^{th} cycle corresponds to −1 or 1 B.C.; the 58^{th} year of the 44^{th} cycle corresponds to +1 or 1 A.D. and the first year of the 76^{th} cycle to +1864 or 1864 A.D.

11. Comparison between Chinese and European chronological dates.

As the Chinese Newyear occurs between the 21 January and 20 February, the Chinese twelfth month occurs always partly, sometimes entirely in the next European year; likewise the Chinese eleventh month sometimes extends into the next European year. It further follows, that the No. of the European month, if January has No. 1, February No. 2 etc. is mostly by 1, sometimes by 2 greater than the No. of the Chinese month, sometimes equal to that of the latter.

If given the Chinese sexagesimal cycle c and the year y of this cycle and if we require the year T of the Christian era, which has in common with y at least 10 months, we find,

when T negative or for all time before and equal to the 57^{th} year of the 44^{th} cycle

$$T = c.60 + y - 2698 \qquad \text{Equation (26)}$$

and, when T positive or for all time after and equal to the 58^{th} year of the 44^{th} cycle,

$$T = c.60 + y - 2697 \qquad \text{Equation (27)}.$$

Vice versa, when T given and required c and y, we get, if T negative,

$$T + 2698 = c.60 + y$$

and the rule to find c and y is thus: if 60 in $T + 2698$ is contained n times and the remainder is r, we have the identical equations

$$T + 2698 = n.60 + r = c.60 + y$$

therefore the required $c = n$ Equation (28)

and   " $y = r$ Equation (29)

When T positive, we obtain from equation (27):

$$T + 2697 = c.60 + y$$

and the rule to find c and y, when T is known: divide $T+2697$ by 60; if 60 in $T+2697$ is contained n times and the remainder r, we get

the required $c = n$ Equation (30)

and the required $y = r$ Equation (31).

Examples for elucidation.

1) Given $c = 22$ and $y = 5$, required T.

As c is smaller than 44, T must be negative and using Equation (26), we find: $T = 22.60 + 5 - 2698 = -1373$ or 1373 B.C.

2) Given $c = 76$ and $y = 17$, required T.

As c is greater than 44, we apply Equation (27):

$$T = 76.60 + 17 - 2697 = +1880 \text{ or } 1880 \text{ A.D.}$$

3) Given $T = -1373$, required c and y.

$T + 2698 = -1373 + 2698 = 1325 = 22.60 + 5 = c.60 + y$, therefore according to Equation (28) and (29) $c = 22$ and $y = 5$.

4) Given $T = +1880$, required c and y.

$$T + 2697 = 1880 + 2697 = 4577 = 76.60 + 17 = c.60 + y$$

therefore $c = 76$

and $y = 17$.

It remains here to show, how to find the corresponding day of the Chinese sexagesimal cycle of days, when the European year, month and day are given; and vice versa, how to find the European month and day (the date), when the Chinese year (c and y) and the day of the sexagesimal cycle of days are given.

For this purpose the following table (33) is constructed, exhibiting the N° and Name of the Chinese sexagesimal cycle's day at the first January of the Julian Calendar (old style) for the first 80 years of the Christian era.

Table (33)

	Year of the cycle of 80 Julian years X	Name of the day of the cycle of 60 days N	Numero of the day of the cycle of 60 days M
	1	Ting - Ch'ow	14
	2	Jin - Wu	19
	3	Ting - Hai	24
bissextile	4	Jin - Chên	29
	5	Wu - Sü	35
	6	Kwei - Mao	40
	7	Wu - Shên	45

Table (33)

	Year of the cycle of 80 Julian years X	Name of the day of the cycle of 60 days N	Numero of the day of the cycle of 60 days M
bissextile	8	Kwei – Ch'ow	50
	9	Ki – Wei	56
	10	Kiah – Tsze	1
	11	Ki – Sze	6
bissextile	12	Kiah – Sü	11
	13	Kēng – Ch'ēn	17
	14	Yih – Yeo	22
	15	Kēng – Yin	27
bissextile	16	Yih – Wei	32
	17	Sin – Ch'ow	38
	18	Ping – Wu	43
	19	Sin – Hai	48
bissextile	20	Ping – Ch'ēn	53
	21	Jēn – Sü	59
	22	Ting – Mao	4
	23	Jēn – Shēn	9
bissextile	24	Ting – Ch'ow	14
	25	Kwei – Wei	20
	26	Wu – Tsze	25
	27	Kwei – Sze	30
bissextile	28	Wu – Sü	35
	29	Kiah – Ch'ēn	41
	30	Ki – Yeo	46
	31	Kiah – Yin	51
bissextile	32	Ki – Wei	56
	33	Yih – Ch'ow	2
	34	Kēng – Wu	7
	35	Yih – Hai	12
bissextile	36	Kēng – Ch'ēn	17
	37	Ping – Sü	23
	38	Sin – Mao	28
	39	Ping – Shēn	33
bissextile	40	Sin – Ch'ow	38
	41	Ting – Wei	44
	42	Jēn – Tsze	49
	43	Ting – Sze	54
bissextile	44	Jēn – Sü	52
	45	Wu – Ch'ēn	5

Table (33).

	Year of the cycle of 80 Julian years X	Name of the day of the cycle of 60 days N	Numero of the day of the cycle of 60 days M
	46	Kwei – Yeo	10
	47	Wu – Yin	15
bissextile	48	Kwei – Wei	20
	49	Ki – Ch'ow	26
	50	Kiah – Wu	31
	51	Ki – Hai	36
bissextile	52	Kiah – Ch'ĕn	41
	53	Kĕng – Sŭ	47
	54	Yih – Mao	52
	55	Kĕng – Shĕn	57
bissextile	56	Yih – Ch'ow	2
	57	Sin – Wei	8
	58	Ping – Tsze	13
	59	Sin – Sze	18
bissextile	60	Ping – Sŭ	23
	61	Jĕn – Ch'ĕn	29
	62	Ting – Yeo	34
	63	Jĕn – Yin	39
bissextile	64	Ting – Wei	44
	65	Kwei – Ch'ow	50
	66	Wu – Wu	55
	67	Kwei – Hai	60
bissextile	68	Wu – Ch'ĕn	5
	69	Kiah – Sŭ	11
	70	Ki – Mao	16
	71	Kiah – Shĕn	21
bissextile	72	Ki – Ch'ow	26
	73	Yih – Wei	32
	74	Kĕng – Tsze	37
	75	Yih – Sze	42
bissextile	76	Kĕng – Sŭ	47
	77	Ping – Ch'ĕn	53
	78	Sin – Yeo	58
	79	Ping – Yin	3
bissextile	80	Sin – Wei	8
	81	Ting – Ch'ow	14

This table shows, that after the expiration of 80 Julian years the same Chinese name or the same day M of the Chinese sexagesimal week, corresponding to the 1 January of the Julian Calendar,

again appears.
The reason for this law is, that 6 Chinese weeks are equal to 360 days and that therefore the figure M increases every common year by 5 and every leap year by 6 and every 4 years of the Julian Calendar by $3.5+6=3.7$ and finally every 80 years by $3.7.20=7.60$ or seven whole cycles of 60 days.
As the table (33) is so constructed, that the first cycle of the 80 years commences with 1 A.D., the place x of any year T A.D. will be the remainder of the division $\frac{T}{80}$, therefore

$x=T-n.80$, if T positive and n a positive integer or zero,

and $x=T+1+n.80$, if T negative and if n denotes a positive integer so selected, that x always positive. If the division of T by 80 or $T+1$ by 80 (when T negative) gives the remainder zero, then is $x=80$.
The application of these formulas and table (33) can be best elucidated by help of the following examples.
In the Chinese annals there is mentioned a solar eclipse in the 16^{th} year of the emperor Muti of the dynasty Tsin, on the first day of the 8^{th} month with the characters Sin-Ch'ow.
At what day of the Julian Calendar did this eclipse occur?
According to our table of the Chinese emperors (chapter 18), the first year of Muti was 345 A.D., therefore his 16^{th} year was 360 A.D.
$T=360$ divided by 80 gives the remainder $x=40$ and the table (33) exhibits for $x=40$ the 38^{th} day of the sexagesimal week with the characters Sin-Ch'ow, corresponding to the 1 January of the year 360 A.D. Since the Han dynasty the 8^{th} Chinese month is that lunation, during which the sun enters the sign Ch'en of the zodiac Tsiu Fen Sptbr. 22. As from the 1 January until 28 August there elapse $30+29+31+30+31+30+31+28=240=4.60$ days (360 A.D. was a leap year), the 28 August 360 A.D. is the 38^{th} day of the Chinese sexagesimal week, called Sin-Ch'ow, and finally, 28 August 360 A.D. is the desired day of the Julian Calendar.
From the astronomical tables we find, that on that day there really happened a solar eclipse, visible in China.
Second example.
Required the day of the Chinese sexagesimal week, simultaneous with the 1 January 1880 A.D. of the Gregorian Calendar.
1880 divided by 80 gives the remainder $x=40$ and table (33) the day Sin-Ch'ow or the 38^{th} day of the Chinese sexagesimal week, corresponding to the 1 January of the Julian (old style) or to the 13 January of the Gregorian Calendar (new style). Therefore it corresponds to the 1 January of the Gregorian Calendar 1880 A.D. the $38-12$ or the 26^{th} day of the Chinese sexagesimal week, called, according to our table (3), Ki-Ch'ow.

12. A short explanation of the Calendars of the more important ancient nations and of the Mahometans.

All ancient nations, living about 2000 or more years ago, regulated their Calendars by the moon and sun, in the same way as the Chinese, giving to a common year 12 lunations and intercalating from time to time a 13th lunation, in order to bring their Lunar-year to agree with the Solar-year.

The ancient Egyptians were an exception to this rule: their year was a pure Solar-year of exactly 365 days, divided into 12 months of 30 days, each year with 5 additional days at the end of the year. Though this intelligent race knew at a very early period, that the exact length of the Solar-year was not 365, but nearly $365\frac{1}{4}$ days, they neglected the fraction $\frac{1}{4}$ every year, so that New year's day fell in the course of 1461 years in each of the four seasons, the error, according to their calculation, after 1461 years being equal to $\frac{1461}{4} = 365\frac{1}{4}$ days or to a whole year.

From an exact calculation it follows, that the Egyptian New year's day had fallen in each of the four seasons in $\frac{365,24224}{0,24224} = 1508$ years.

The Egyptians were the first of the ancient nations to establish the period of seven days, the so called week; probably originating from religious rites and observances of the seven heavenly bodies: the Sun, the Moon, Mars, Mercury, Jupiter, Venus and Saturn.

The Calendar of the Athenians, the most important of the Greeks, was similar to that of the Chinese. Until the year 433 B.C. the months had alternately 29 and 30 days, they intercalated in the course of 8 years three months, each of which had 29 days; and their Lunar-year commenced about the summer-solstice.

About 433 B.C. the Athenians became acquainted with the Lunar-cycle of 19 years, discovered by the Egyptians, and intercalated, according to it, seven months in the course of 19 years.

The Greeks used (a system, similar to the Chinese cycle of 60 years) a cycle of 4 years, called Olympiads. The first year of these Olympiads was 776 B.C. July 1, so that for instance the second year of the 42 Olympiad is $776 - (4.41 + 1) = 611$ B.C.

If T denotes the year B.C., c the number of the Olympiad and y the year in c, then we have $T = c.4 + y - 781$, and if T denotes the year A.D., then will be $T = c.4 + y - 780$.

The month of the Athenians was divided into three decades, but the week of seven days was not received.

The Calendar of the ancient Romans, a people chiefly engaged in war, was for the most part borrowed from the Greeks and until 45 B.C., the year of the establishment of the Julian Calendar, disorder and great confusion prevailed. Their year commenced mostly in winter. The week of seven days was not received, but their month was divided into three unequal parts, called Calends, Nones and Ides.

The Lunar-year of the Jews is arranged in a similar manner to that of the Greeks and the Chinese: i.e. the course of 19 years they intercalate 7 months and the positions of the leap-years in the Lunar-cycle are the same as those of the Chinese leap-years, viz. the 3, 6, 8, 11, 14, 17 and 19th year of the cycle.
In the time of Moses, 1600 B.C. the Jews commenced their year with the Newmoon, that occurred nearest to the vernal equinox; but from the time of Esdra and the Maccabees, 200 B.C., until the present time, it commences in autumn with the month called Tisri.
The week of seven days the Jews received from the Egyptians and from the Jews this week has been handed down to Christian nations.
The first year of the Jews is 4004 B.C., 1 January, or the 710th year of the Julian period.

In concluding this short explanation of the Calendars of the different nations of the world, I would mention the peculiar Calendar of the Musulmen, as distinguished from that of all other nations in the adoption of a pure Lunar-year, which has regard only to the moon's course, irrespective of that of the sun's, which is entirely ignored, so that Newyears day falls in each of the seasons in about 34 solar years. Every year, without exception, has 12 lunations; the month commences with the Newmoon; the length of the months is alternately 30 and 29 days; the length of the year is either 354 or 355 days: 354 days, when 6 months consists of 29 and 6 of 30 days; and 355 days, when 5 months consists of 29 days and 7 of 30 days.
During a cycle of 30 years there are 19 years of 354 days and 11 years of 355 days; the years of 355 days are the 2, 5, 7, 10, 13, 16, 18, 21, 24, 26 and 29th year of this 30 yearly cycle.
Thus the number of days contained in 30 Lunar-years of the Musulmen will be = 19.354 + 11.355 = 10631 days, whilst the exact value of these 30 years = 12.30.29,53059 = 10631,01 days.

Dr. Fritsche, On Chronology.

Therefore the error in the Mahomedan Calendar will be only sensible after some thousand years.

The commencement of the Mahomedan's era is the 16 July 622 A.D., called Heggra. The place of any year H in the above mentioned cycle of 30 years is the remainder r of the division $\frac{H}{30}$ and, if r equals any of the figures 2, 5, 7, 10, 13, 16, 18, 21, 24, 26 or 29, the year H will consist of 355 days. The last month of such a year will have 30 days, whilst the years of 354 days will have in the last months only 29 days.

The week of seven days is also used by the Mahomedans, who keep the 6th day of the week (the Christian Friday) as holy-day, whilst Christian nations keep holy the first day, Sunday, and the Jews the 7th day, called Saturday.

13. Rising and Setting of the Sun.

If t denotes the hour angle of the sun, when setting or rising, d its declination and a the geographical latitude of the place, for which the Rising and Setting of the Sun is to be calculated, then we can calculate t by help of the following formula:

$$\cos.t = -\operatorname{tg}.a \operatorname{tg}.d$$

As this formula can be used not only for the Sun, but also for the Moon, fixed stars and Planets, and as d for Sun and Moon is included within the limits $-28°$ and $+28°$, we have for Peking, the latitude of which is $a = +39° 55'$, calculated the following table, in order to facilitate the calculation of Sunrise and Sunset.

Table (34)

d	$\frac{t}{15}$	d	$\frac{t}{15}$	d	$\frac{t}{15}$
−28°	4h 14m	−13°	5h 15m	+2°	6h 7m
−27	19	−12	19	+3	10
−26	24	−11	22	+4	13
−25	28	−10	26	+5	17
−24	33	−9	29	+6	20
−23	37	−8	33	+7	23
−22	41	−7	36	+8	27
−21	45	−6	39	+9	30
−20	49	−5	43	+10	34
−19	53	−4	46	+11	37
−18	57	−3	50	+12	41
−17	5 1	−2	53	+13	45
−16	5	−1	57	+14	48
−15	8	0	6 0	+15	52
−14	12	+1	3	+16	56

d	$\frac{t}{15}$	d	$\frac{t}{15}$	d	$\frac{t}{15}$
+17°	$6^h\ 59^m$	+21°	$7^h\ 15^m$	+25°	$7^h\ 32^m$
+18	7 3	+22	19	+26	37
+19	7	+23	24	+27	42
+20	11	+24	28	+28	46

Further, Mean time - Apparent time being equal to e and the influence of the sun's semidiameter and refraction being equal to $r = \frac{3^m,27}{\cos a \cos d \sin t}$, for the sun's superior edge the mean Time of

the Rise will be equal to $12^h + e - (\frac{t}{15} + r)$ Formula (35)

Set will be equal to $e + \frac{t}{15} + r$ Formula (36)

In these formulas are assumed t and r positive and t reckoned for Sunrise from the meridian to East and for Sunset from the meridian to West.

Example: Calculate the rise and set of the sun for the 4 May 1880 at Peking

According to the Nautical Almanac 1880 page 74 at the 4 May is $d = +16° 4'$, $e = -3^m$ and $r = \frac{3^m,27}{\cos a \cos d \sin t}$ for Peking can be assumed for all seasons $= 4^m$.

Therefore, taking $\frac{t}{15}$ from table (34) we get:

$12^h + e - (\frac{t}{15} + r) = 11^h 57^m - 7^h 0^m = 4^h 57^m$ A. M. Sun's Rise, superior edge, and

$e + \frac{t}{15} + r = -3^m + 7^h 0^m = 6^h 57^m$ P. M. Sun's Set, superior edge.

14. Rising and Setting of the Moon.

First find the mean local time of the Moon's passage through the meridian of the place on the Earth surface, the eastern longitude of which may be l and latitude a.

If s denotes the hourly motion of the Moon's rightascension, expressed in minutes of time, a' the rightascension of the Moon at the moment of its culmination at Greenwich, and t' the sidereal time at Greenwich noon (all three, s, a', t' are shown in the Nautical Almanac) and if l is expressed in hours, the Moon's rightascension, when in the meridian of the place, whose longitude is l, is $a' - s.l$ and the sidereal time at mean noon of this place is equal to $t' - l.0,164$, the increase of t' being in 24 hours $3^m,94$ and in 1 hour 0,164 minutes.

As the Moon is in the meridian in that moment, in which the sidereal time is equal to its rightascension $a' - s.l$, at the moment of the Moon's culmination on the place, whose longitude is l, between its mean noon, when the sidereal time is $t' - l \cdot 0^m{,}164$, and the moment of the culmination, when the sidereal time is $a' - 3 \cdot l$, are elapsed the sidereal hours and minutes

$$a' - 3.l - (t' - l \cdot 0^m{,}164) = a' - t' - l\,(3 - 0^m{,}164) \qquad \text{Expression (37)}$$

This expression, reduced to mean time, is the required mean time of the Moon's passage through the meridian of that place, the eastern longitude (from Greenwich) of which is l.

The quantity $a' - t'$, reduced to mean time, is shown in the Nautical Almanac under the rubric „Meridian Passage, Upper."

We have therefore only to calculate the small quantity $l\,(3 - 0{,}164)$, whose reduction to mean time can be passed over from its insignificance.

As the Moon has a proper motion to the East, in rightascension in 1 hour 3 minutes of time, it has to pass from the horizon to the meridian or from the meridian to the horizon not only through the angle t (t must be calculated by the formula $\cos t = -\operatorname{tg} a \cdot \operatorname{tg} d$), but also through an arc of $3 \cdot 15 \cdot \frac{t}{15}$ minutes or $\frac{3.t}{60}$ degrees and the time elapsed between the position of the Moon in the horizon and the meridian is not $\frac{t}{15}$ but $\left(\frac{t}{15} + \frac{3.t}{15.60}\right)$ sidereal hours or nearly $\frac{t}{15} + \frac{3.t}{15.60} - \frac{1}{6} \cdot \frac{t}{15.60}$ or

$$\left[\frac{t}{15} + \frac{t}{15.60}\,(3 - 0{,}17)\right] \text{ mean hours.}$$

According to this we obtain the mean local time

of the Rising of the Moon equal to $(a' - t') - l\,(3 - 0{,}164) - \left[\frac{t}{15} + \frac{t}{15.60}\,(3 - 0{,}17)\right]$

and of the Setting of the Moon equal to $(a' - t') - l\,(3 - 0{,}164) + \left[\frac{t}{15} + \frac{t}{15.60}\,(3 - 0{,}17)\right]$

These expressions hold good for the moment, when the Moon's centre is in the true horizon, passing through the centre of the Earth. In order to reduce them to the sensible horizon, passing through the place of observation on the Earth's surface), we calculate the quantity $p = \frac{4^m{,}00}{\cos a \cos d \sin t}$. Besides this correction for Rising and Setting of the Moon, is to be calculated the influence of the refraction $r = \frac{2^m{,}20}{\cos a \cos d \sin t}$, and, as p and r have always contrary signs, $p - r$ being equal to $\frac{1^m{,}80}{\cos a \cos d \sin t}$, we get finally the following formulas:

Formula (38)

Mean local time of the Rising of the Moon $= [a' - t'] - l\,[3 - 0{,}164] - \left[\frac{t}{15} + \frac{t}{15}(3 - 0{,}17)\right] + \frac{1^m{,}80}{\cos a \cos d \sin t}$

Formula (39)

Mean local time of the Setting of the Moon $= [a' - t'] - l\,[3 - 0{,}164] + \left[\frac{t}{15} + \frac{t}{15}(3 - 0{,}17)\right] - \frac{1^m{,}80}{\cos a \cos d \sin t}$

If l is expressed in hours and fractions of hours and J in minutes of time, $l(J-0{,}164)$ will be obtained in minutes; if also in the expression $\frac{t}{15}(J-0{,}17)$ $\frac{t}{15}$ is expressed in hours and decimal fractions of hours, and J in minutes, $\frac{t}{15}(J-0{,}17)$ will be calculated in minutes.

The calculation of the Rising and Setting of the Moon for any given place can be facilitated very much by help of tables.

For instance for Peking we have $l = 7{,}8^h$ and $a = +39°55'$. As on this latitude the hour angle t of the Moon never differs much from 90° and as d fluctuates near 0°, $\cos d . \sin t$ will be always nearly equal to 1 and the influence of the refraction and parallax can be assumed for Peking constant $\frac{1{,}80}{\cos a} = 2{,}3^m$.

As the hourly variation of the Moon's rightascension, J, is included within the limits $1{,}8^m$ and $3{,}0^m$, we bring the expression $l(J-0{,}164) = 7{,}8(J-0{,}164)$ in the following table (40):

J	$7{,}8(J-0{,}164)$
$1{,}8^m$	13^m
1,9	14
2,0	14
2,1	15
2,2	16
2,3	17
2,4	17
2,5	18
2,6	19
2,7	20
2,8	21
2,9	21
3,0	22

$\frac{t}{15}$ we can take immediately from table (34), contained in chapter 13.

For $\frac{t}{15}(J-0{,}17)$ I have calculated the following table (41):

$\frac{t}{15}$	$J=$ $1{,}8^m$	$1{,}9^m$	$2{,}0^m$	$2{,}1^m$	$2{,}2^m$	$2{,}3^m$	$2{,}4^m$	$2{,}5^m$	$2{,}6^m$	$2{,}7^m$	$2{,}8^m$	$2{,}9^m$	$3{,}0^m$
$4{,}6^h$	7^m	8^m	8^m	9^m	9^m	10^m	10^m	11^m	11^m	12^m	12^m	13^m	13^m
5,0	8	9	9	10	10	11	11	12	12	13	13	14	14
5,4	9	9	10	10	11	11	12	13	13	14	14	15	15
5,8	9	10	11	11	12	12	13	14	14	15	15	16	16
6,2	10	11	11	12	13	13	14	14	15	16	16	17	18
6,6	11	11	12	13	13	14	15	15	16	17	17	18	19
7,0	11	12	13	14	14	15	16	16	17	18	18	19	20
7,4	12	13	14	14	15	16	16	17	18	19	19	20	21
7,8	13	13	14	15	16	17	17	18	19	20	20	21	22

The application of these tables (34) (40), (41) and of the formulas (38), (39) we will explain by help of the following example.
Calculate the mean Peking time of the Moon's culmination, its Rising and Setting on the 4 May 1880, civil or Calendar date.

Nautical Almanac page 77, astronomical date May 3	$a'-t' =$	$20^h\ 18^m$
" " " 377, $\delta = 2{,}0^m$, therefore, according to table (40) $\ell(1-0{,}164) =$		$+\ 14$
$a'-t'-\ell(1-0{,}164)$ = Mean time of Culmination at Peking	$=$	$20^h\ 4^m$
Nautical Almanac pag. 377 $d = -3{,}0°$, hence, according to (34) and (41) $\frac{t}{15}+\frac{t}{15}(1-0{,}17)$	$=$	$6^h\ 1^m$
therefore $(a'-t')-\ell(1-0{,}164)-\left[\frac{t}{15}+\frac{t}{15}(1-0{,}17)\right]$	$=$	$14^h\ 3^m$
Parallax and Refraction $\frac{1{,}80^m}{\cos a}$	$=$	$+\ 2$
Peking, Rising of the Moon, Calendar style May 4		$2^h\ 5^m$ A. M.
Nautical Almanac page 377 d for Moon's Set $= -0{,}3°$, table (34) and (41) give $\frac{t}{15}+\frac{t}{15}(1-0{,}17)$	$=$	$6^h\ 10^m$
Culmination $a'-t'-\ell(1-0{,}164)$	$=$	$20^h\ 4^m$
therefore $a'-t'-\ell(1-0{,}164)+\frac{t}{15}+\frac{t}{15}(1-0{,}17)$	$=$	$2^h\ 14^m$
Parallax and Refraction	$=$	-2^m
Peking, Setting of the Moon, Calendar style May 4		$2^h\ 12^m$ P. M.

15. Rising and Setting of the Planets and fixed Stars.

As the proper motion of the Planets during a quarter of a day is so insignificant and that of the fixed Stars is zero, the calculation of their Culmination, Rising and Setting is easier than that of the Moon. When t' and ℓ have the same meaning as in the chapter 14. and a' denotes the rightascension of the Planet or fixed Star, the number of sidereal hours and minutes elapsed from the mean noon until the culmination at the place, whose longitude from Greenwich is ℓ, will be, according to the expression (37), — δ being in this case zero —, $a'-(t'-\ell.0{,}164)$, therefore the mean time of culmination

$$C = a'-(t'-\ell.0{,}164) - \frac{a'-t'}{6}.$$

The quantity $\frac{a'-t'}{6}$ represents minutes of time, a' and t' being expressed in hours and decimal fractions of hours; similarly $\ell.0{,}164$ represents minutes, when ℓ is expressed in hours and decimal fractions of hours. Then calculate the hour angle t by help of the formula $\cos t = -\operatorname{tg}\varphi\operatorname{tg}d$, and the refraction $r = \frac{2{,}20^m}{\cos a \cos d \sin t}$ and the mean local time of the Planet's or Star's

$$\text{Rising will be} = \mathcal{C} - \left[\frac{t}{15} - \frac{t}{15.6}\text{minutes}\right] - r \qquad \text{Formula (42)}$$

$$\text{and the Setting} = \mathcal{C} + \left[\frac{t}{15} - \frac{t}{15.6}\text{minutes}\right] + r \qquad \text{Formula (43)}$$

For example. Calculate the Rising and Setting of the fixed star Sirius for Peking on the 4 May 1879.

$\ell = 7^h{,}8$, $a = +39°55'$; according to the Nautical Almanac for 1879 page 333 $a' = 6^h40^m$, $d = -16°33'$ and according to page 75 $t' = 2^h48^m$. Therefore $\ell . 0{,}164 = 1^m{,}3$; $\frac{a'-t'}{6} = \frac{6^h{,}3 - 2^h{,}8}{6} = 0^m{,}65$ and $\mathcal{C} = 6^h40^m - 2^h47^m - 1^m = 3^h52^m$ P.M.

Further, according to table (34) $\frac{t}{15} = 5^h3^m$, hence $\frac{t}{15.6} = \frac{5}{6} = 0^m{,}8$; $r = 3^m$ and finally the mean local time of Sirius

Rising $3^h52^m - 5^h2^m - 3^m = 10^h47^m$ A.M. May 4 1879 Calendar Style
Setting $3^h52^m + 5^h2^m + 3^m = 8^h57^m$ P.M. May 4 1879 Calendar Style.

16. Eclipses of the Moon and the Sun.

An eclipse is the concealment or obscuration of the disc of the sun or moon by an interception of the sun's rays.
A solar eclipse is caused by the passage of the moon between the earth and the sun so as to conceal the sun from our view.
A lunar eclipse is caused by the passage of the moon through the earth's shadow.
The limit north or south of the ecliptic, within which an eclipse must or can occur is larger in the case of solar eclipses than in the case of lunar eclipses.
A solar eclipse must occur, when the moon's latitude is smaller than 1°24'; when the moon's latitude is between 1°24' and 1°35', then a solar eclipse can take place.
A lunar eclipse must take place, when the moon's latitude is smaller than 52'; and when the moon's latitude lies between 52' and 1°3', then a lunar eclipse can occur.
As the inclination of the moon's orbit to the ecliptic is nearly 5°9', to the latitudes 1°35', 1°24', 1°3' and 52' correspond respectively the longitudes of the moon or its distances from the node 17°51', 15°44', 11°44' and 9°40'.
The greatest number of eclipses that can happen in a year is seven: five of the sun and two of the moon or four of the sun

and three of the moon.
The least number is two, both of which must be of the sun.
The usual number is four, and it is rare to have more than six.
Solar eclipses do not actually occur as often as lunar eclipses at any particular place, because the latter are always visible to an entire hemisphere, the moon being really deprived of the sun's light by the earth, whereas the former are only visible to that part of the earth's surface covered by the moon's shadow or its penumbra, the occulted body, the sun, being not deprived really of its light.
When the whole of the sun's or moon's disc is concealed, the eclipse is said to be total; when only a part of it is concealed, it is said to be partial.
In order to measure the extent of the eclipse, the apparent diameters of the sun and moon are divided into twelve equal parts, called digits. When the centres of the sun and moon coincide, the eclipse is said to be central. A central lunar eclipse must be always total, the diameter of the earth's shadow, where the moon crosses it, being always at least more than twice as great as the diameter of the moon; but a central solar eclipse need not to be a total one, when the moon's shadow does not reache the earth's surface, being too far from the latter. In this case the solar eclipse is called annular.
As the occurrence of eclipses depend upon the time of the New- and Full-moon, distant from each other about half a month, and from the position of the moon's node-line, moving with the earth around the sun and pointing (or what is the same: the moon's node and the sun having the same longitude) to the sun every 5-6 months, the intervals between the eclipses must be either about half a month or about $5\frac{1}{2}$ months.
Eclipses of both the sun and moon recur in nearly the same order, and at the same intervals, after the expiration of 18 years and 10 or 11 days, according as there may be 5 or 4 leap years in this period. For, a lunation is about 29,53 days, and the time of a revolution of the sun with respect to the node, 346,62 days, which periods are nearly in the ratio 19 to 223, so that 223 lunations are almost equal to 19 revolutions of the sun with respect to the node; the products $346{,}62 \cdot 19$ and $29{,}53 \cdot 223$ being both very nearly $6585\frac{1}{2}$ days or 18 solar years and 10 to 11 days.
This is called the cycle or period of eclipses. The eclipses, which occur during one such period being noted, subsequent eclipses may easily be predicted; as their order is the same, only they are 10 or 11 days later in the month and about 8 hours later in the day, so that in one cycle eclipses may be visible, and in the next invi-

sible at a particular place. During this period of 18 years and 10 or 11 days there are generally 41 solar and 29 lunar eclipses. Thus for instance a lunar eclipse occurred January 6 1852 A.D. and 18 years 11 days later or on the 17 January 1870 it took place again.

The approximate time at which an eclipse will occur may be discovered by help of the foregoing remarks. Their exact time can be calculated only by help of the longitude and latitude (or rightascension and declination) of the sun and moon, their hourly motions and parallaxes, being calculated for the opposition or conjunction either from the fundamental tables or being immediately taken from the Nautical Almanac.

For the calculation of the lunar eclipses we need the following elements, which can be calculated either from the astronomical fundamental tables of the sun and moon or can be taken from the Nautical Almanac:

t the time of opposition, when the rightascension of the moon's and sun's centre, seen from the centre of the earth, differ 180°;

A the rightascension of the moon's centre at the time t;

P the moon's distance from the northpole at t; P is equal $90°-d$, when d the moon's declination;

P_1 the distance from the northpole of that point on the heavenly sphere, which is opposite to the sun; $P_1 = 180° - (90° - d_1) = 90° + d_1$, when d_1 denotes the sun's declination;

a the hourly motion of the moon's rightascension A, about t, always positive;

a_1 the hourly motion of the sun's rightascension about t, always positive;

v the hourly motion of P;

v_1 the hourly motion of P_1;

p the Equatorial horizontal parallax of the moon;

p_1 the Equatorial horizontal parallax of the sun;

m the true semidiameter of the moon;

m_1 the true semidiameter of the sun.

The formulas, by which we calculate the principal phases of a lunar eclipse, if t, A, P, P_1, a, a_1, v, v_1, p, p_1, m and m_1 given, are:

$$tg\, n = \frac{v_1 - v}{(a - a_1)\sin P_1}$$

$$e = (P_1 - P)\cos n$$

$$h = \frac{\sin n}{v_1 - v}$$

h being equal to $\frac{1}{k}$, supposing that k is the moon's hourly motion in its path BND.

The time M of the greatest occultation or the middle of the eclipse

$$M = t \pm h\,(P_1 - P)\sin.n$$

The quantity $h(P_1-P)\sin.n$ is positive, when the greatest occultation takes place later than the opposition t, and negative, when earlier. (cf. the following numerical example).

The semidiameter R of the earth's shadow, where the moon crosses it, is

$$R = p + p_1 - m,$$

If q denotes the number of digits of occultation at any moment T, we get

$$\cos u = \frac{e}{R + m - \frac{m.q}{6}}$$

and $$T = M \pm h.e.tg\,u$$

Finally the maximum Q of occultation in digits or the magnitude of the eclipse, is:

$$Q = \frac{6}{m}(R + m - e).$$

At the beginning and end of the occultation q is equal to zero; at the beginning and end of the total occultation q is equal to 12.

In order to illustrate the method, we will calculate a lunar eclipse, occurring June 22 1880.

To make this better understand I have drawn up the annexed diagram. C represents the centre of the earth's shadow, where the moon crosses it; $CF = CF_1 = CE = CS = R$ the radius of the conic section, produced by a plane, drawn perpendicular to the axis of the earth's shadow; FCE represents a parallel circle, F_1CS a declination circle; $ByGND$ the apparent path of the moon's centre through the earth's shadow; $n = B\hat{W}E = N\hat{C}G$.

The maximum of occultation will take place, when the moon's centre is at N, supposing that CN is perpendicular to DB, because then the moon's centre is nearest to the centre C of the shadow.

$CN = e$; $CG = P_1 - P$; $N\hat{C}y = u$, the moon's centre being in y at the time T.

We take from the Nautical Almanac for the year 1880 page 399 the following elements for our calculation.

$t = 1^h\,45^m\,2^s\!,6$ the moment, when the moon's centre is at G

$A = 18^h\,6^m\,16^s\!,5$

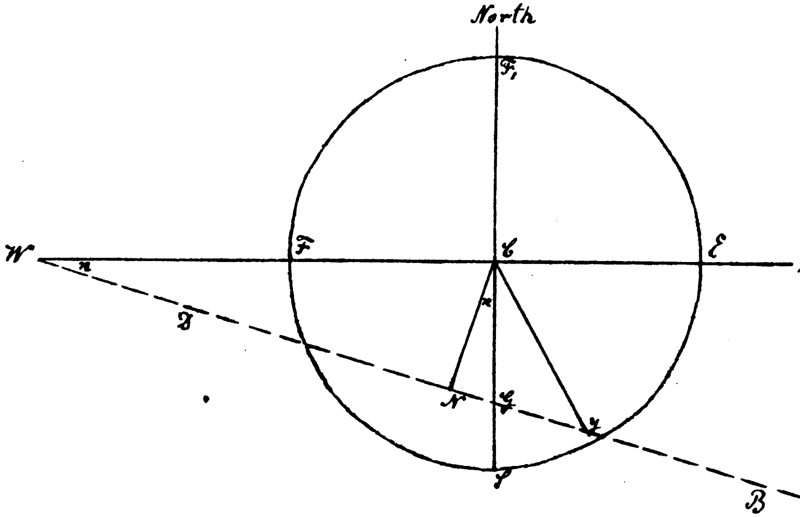
$P = 90° - (-23°\,54',5) = 113°\,54',5$

$P_1 = 90° + 23°\,26',8 = 113°\,26',8$

$a = +41',46 \quad a_1 = +2',60 \quad v = -3',92 \quad v_1 = +0',025$

$p = 61',31 \quad p_1 = 0',15 \quad m = 16',74 \quad m_1 = 15',77$

therefore $v_1 - v = +3',945$; $a - a_1 = +38',86$, $\log.tg\,n = 9,04398$ and $n = 6°\,18',9$. Further $P_1 - P = -27',7$, hence $\log.e = 1,43984_n$; $\log h = 8,44533$; $\log[h(P_1-P)\sin n] = 8,92919$, therefore $h(P_1-P)\sin.n = 0^h\!,085 = 5^m\!,1$.



From our diagram it follows, that the maximum of occultation in our case happens after the opposition t at G, when the moon's centre has passed G and has arrived at N, consequently $5^m,1$ positive and $M = 1^h\,45^m,0 + 5^m,1 = 1^h\,50^m,1 = t + h(P_1 - P)\sin.n.$

$R + m = p + p_1 - m_1 + m = 62',43$, and as for the beginning and the end of the eclipse q equals zero, it will be $\cos.u = \frac{e}{R+m}$, therefore $u = 116°\,10',1$ and $e.h.tg\,u = 1^h,562 = 1^h\,33^m,7$.

According to this, the first contact with the shadow happens at $T = M - h.e.tg.u = 1^h\,50^m,1 - 1^h\,33^m,7 = 0^h\,16^m,4$ and the last contact at $T = M + h.e.\,tg\,u = 1^h\,50^m,1 + 1^h\,33^m,7 = 3^h\,23^m,8$.

At the beginning of the total occultation of the moon, q is equal 12, therefore $\cos u = \frac{e}{R+m-2m} = \frac{e}{R-m} = \frac{e}{28,95}$; it follows $u = 161°\,53',5$ and

$h.e.tg.u = 0^h,2495 = 15^m,0$, therefore the beginning of Total phase $T = M - h.e.tg\,u = 1^h\,50^m,1 - 15^m,0 = 1^h\,35^m,1$ and the end of Total phase $T = M + h.e.tg\,u = 1^h\,50^m,1 + 15^m,0 = 2^h\,5^m,1$.

The 5 quantities viz:

First contact with the Shadow	0^h	16^m
Beginning of Total Phase	1	35
Middle of the Eclipse	1	50
End of Total Phase	2	5
Last contact with the Shadow	3	24

are expressed in Greenwich mean time; in order to find the corresponding mean local time of any other place, whose longitude from Greenwich is l, we add l, when east and subtract l,

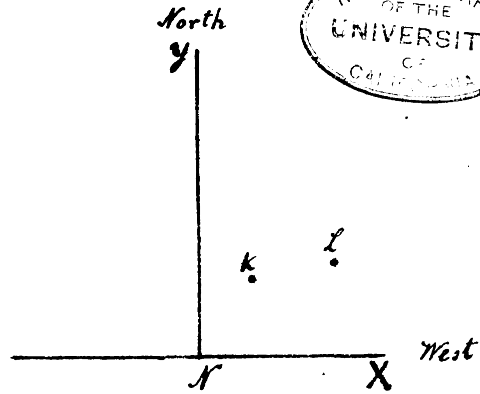
when west from Greenwich.
For instance for Peking is $l = 7^h 46^m$ east, therefore

First contact with the Shadow 1880 June 22	$8^h\ 2^m$ P.M.	Peking mean time	
Beginning of Total Phase	9 21 P.M.	" "	"
Middle of the Eclipse	9 36 P.M.	" "	"
End of Total Phase	9 51 P.M.	" "	"
Last contact with the Shadow	11 10 P.M.	" "	"

In comparing these results with the calculation of the Nautical Almanac, we find small, insignificant differences, principally due to the neglect of small corrections, mentioned in the next chapter, which deals with the Solar eclipses. This is a matter of no importance, because the phenomenon itself is, in consequence of the existence of the penumbra, not well defined and can not be observed exactly.
The magnitude Q of the eclipse in digits we find by help of the formula $Q = \frac{6}{m}(R + m - e)$, equal to 12,5 and in units of the moon's diameter equal $\frac{12,5}{12} = 1,04$.
The moments of the phases of the lunar eclipses and their magnitude can be taken immediately, without calculation, from the Nautical Almanac. Then it is only necessary to add to the moments of the phases, shown in the Nautical Almanac the longitude l — positive, when east, negative, when west — in order to get the local mean time of the place for which we wish to prepare a Calendar.

The Solar eclipses at any particular place.

The peculiar circumstances of a solar eclipse for any particular place must be especially calculated and can not be taken directly from the Nautical Almanac.
For this reason I will explain here a short method of calculating it.
Conceive the whole phenomenon to be projected over a plane, having the same distance from the earth's centre as the moon's, and perpendicular to the straight line between the sun and earth's centres at the time of the conjunction t, exhibited in the Nautical Almanac. Let N be the point, at which this straight line meets our plane of projection; the moon's centre, seen from the earth's centre, may be at L and the sun's centre, seen from any particular place on the earth's surface, whose latitude is g and longitude l



from Greenwich, may appear on our plane of projection at the point K. Moreover let NX be a part of a parallel circle (parallel to the equator), drawn through N, and NY perpendicular to NX, a declination circle.

Then the particular circumstances of the eclipse will depend upon the angular distance KL = D between the points K and L, and, when we determine D for each hour of the phenomenon, we are able to calculate the moment, when D is a minimum or the time of greatest occultation; and also the moments, when D is equal to the sum of the apparent semidiameters of the sun and moon or the moments of the beginning and end of the eclipse.

The point L can be determined by two rectangular coordinates x and y in relation to the two axes NY and NX and the starting point N; and in like manner the position of K by help of two coordinates X and Y in relation to the same axes. Thus we receive:

$$D^2 = (x - X)^2 + (y - Y)^2$$

and we have to calculate x, y, X and Y for each hour before and after the conjunction t.

If a denotes the moon's rightascension
a_1 " " sun's "
d " " moon's declination
d_1 " " sun's "
p " " equatorial horizontal parallax of the moon
p_1 " " " " " " " sun
t_1 " " hour angle of the sun

g denotes the geographical latitude of the place on the earth's surface, for which the eclipse shall be calculated

l " " longitude of this place, from Greenwich,

the unknown, required quantities x, y. X and Y can be deduced by the following formulas:

$$x = (a - a_1) . \cos d$$

$$y = d - d_1 + \frac{\sin 1''. \sin d_1}{2 \cos d_1} x^2$$

$$X = (p - p_1) \cos g \sin t_1$$

$$Y = (p - p_1) \sin g . \cos d_1 - (p - p_1) \cos g . \sin d_1 \cos t_1$$

This short method of calculating a solar eclipse for any particular place I will illustrate by calculating the solar eclipse, which happened on the 6 June 1872 at Peking, making use of the elements, exhibited in the Nautical Almanac for 1872 pag. 431.

x, X, y, Y I have calculated for the time $t = 15^h 27^m,4$ of conjunction and besides this for two hours before $15^h 27^m,4$ and two hours afterwards.

Greenwich mean time 1872 June 5	$13^h 27^m,4$	$14^h 27^m,4$	$15^h 27^m,4$	$16^h 27^m,4$	$17^h 27^m,4$
Hourly motion of a is $= 32' 19'',1$,					
Hourly motion of $a_1 = 2' 34'',7$, therefore					
the hourly motion of $a - a_1 = 1784'',4$ and $a - a_1 =$	$-3568'',8$	$-1784'',4$	$0'',0$	$+1784'',4$	$+3568'',8$
$d =$	$+22° 46',3$	$+22° 52',3$	$+22° 58',3$	$+23° 4',3$	$+23° 10',3$
$\log.(a - a_1) =$	$3{,}55252_n$	$3{,}25149_n$		$3{,}25149$	$3{,}55252$
$\log. \cos d =$	$9{,}96476$	$9{,}96444$		$9{,}96380$	$9{,}96347$
$\log. x =$	$3{,}51728_n$	$3{,}21593_n$		$3{,}21529$	$3{,}51599$
$x =$	$-3291''$	$-1644''$	$0''$	$+1642''$	$+3281''$
At the conjunction $15^h 27^m,4$ is $d - d_1 =$	$+1032'',8$	$+1032'',8$	$+1032'',8$	$+1032'',8$	$+1032'',8$
Hourly motion of $(d - d_1)$ equal $345'',0$, hence	$-690{,}0$	$-345{,}0$	$0{,}0$	$+345{,}0$	$+690{,}0$
$d - d_1$ for the moments $13^h 27^m,4$, $14^h 27^m,4$ etc. $=$	$+342'',8$	$+687'',8$	$+1032'',8$	$+1377'',8$	$+1722'',8$
$\frac{\sin 1'' \sin d_1}{2 \cos d_1} x^2 =$	$+11{,}0$	$+2{,}8$	$0{,}0$	$+2{,}8$	$+11{,}0$
$y =$	$+354''$	$+691''$	$+1033''$	$+1381''$	$+1734''$
Greenwich mean time	$13^h 27^m,4$	$14^h 27^m,4$	$15^h 27^m,4$	$16^h 27^m,4$	$17^h 27^m,4$
Longitude of Peking	$+7\ 45,9$	$7\ 45,9$	$7\ 45,9$	$7\ 45,9$	$7\ 45,9$

therefore Peking mean time	$21^h 13^m,3$	$22^h 13^m,3$	$23^h 13^m,3$	$0^h 13^m,3$	$1^h 13^m,3$
Equation of time	+ 1,6	+ 1,6	+ 1,6	+ 1,6	+ 1,6
Peking apparent time	21 14,9	22 14,9	23 14,9	0 14,9	1 14,9
Hour-angle t_1	− 2 45,1	− 1 45,1	− 0 45,1	+ 0 14,9	+ 1 14,9
t_1 in arc	$-41° 16',5$	$-26° 16',5$	$-11° 16',5$	$+3° 43',5$	$+18° 43',5$
d_1	$+22° 40',5$	$+22° 40',8$	$+22° 41',1$	$+22° 41',4$	$+22° 41',6$
g	$+39° 55',0$				
$p - p_1 = 54' 38'',7 - 8'',8 =$	3270″				
$\log \sin t_1$	$9,81933_n$	$9,64609_n$	$9,29118_n$	8,81270	9,50654
$\log (p-p_1) \cos g$	3,39933	3,39933	3,39933	3,39933	3,39933
$\log X$	$3,21866_n$	$3,04542_n$	$2,69051_n$	2,21203	2,90587
$\log \cos t_1$	9,87595	9,95264	9,99153	9,99909	9,97638
$\log \sin d_1$	9,58603	9,58612	9,58621	9,58630	9,58636
$\log (p-p_1) \cos g$	3,39933	3,39933	3,39933	3,39933	3,39933
$\log [(p-p_1) \cos g \sin d_1 \cos t_1]$	2,86131	2,93809	2,97707	2,98472	2,96207
$\log \cos d_1$	9,96507	9,96505	9,96503	9,96502	9,96500
$\log (p-p_1) \sin g$	3,32186	3,32186	3,32186	3,32186	3,32186
$\log [(p-p_1) \sin g \cos d_1]$	3,28693	3,28691	3,28689	3,28688	3,28686
$(p-p_1) \sin g \cos d_1$	+ 1936,1	+ 1936,0	+ 1935,9	+ 1935,9	+ 1935,8
$-(p-p_1) \cos g \sin d_1 \cos t_1$	− 726,6	− 867,1	− 948,6	− 965,4	− 916,4
Y	+ 1210	+ 1069	+ 987	+ 970	+ 1019
y	+ 354	+ 691	+ 1033	+ 1381	+ 1734
X	− 1655	− 1110	− 490	+ 163	+ 805
x	− 3291	− 1644	0	+ 1642	+ 3281
$\log (x - X)$	$3,21372_n$	$2,72754_n$	2,69020	3,16997	3,39375
$\log (y - Y)$	$2,93248_n$	$2,57749_n$	1,66276	2,61384	2,85431
$(x - X)^2$	2676400	285150	240110	2187400	6130600
$(y - Y)^2$	732750	142880	2116	168920	511230
$\log D^2$	6,53265	5,63147	5,38422	6,37223	6,82229

From this calculation we get Table (50):

Peking mean time	D	Differences
$21^h,222$	1846″	
		− 1192
22,222	654	
		− 162
23,222	492	
		+ 1043
0,222	1535	
		+ 1042
1,222	2577	

The moon's semidiameter was $14' 54'',9$, that of the sun $15' 47'',4$, therefore at the beginning and end of the eclipse the value of

$$D = 15' 47'',4 + 14' 54'',9 = 1842'',3 .$$

By way of an easy interpolation we find, that according to table (50), the value $\mathfrak{D} = 1842{,}''3$ happened twice, at $21{,}^h22$ and $0{,}^h52$; therefore the beginning of the eclipse at Peking 1872 June 6 $9^h 13^m$ A.M. Peking mean time and the end of the eclipse $0^h 31^m$ P.M. Peking mean time, 1872 June 6.

The moment of the greatest occultation or the middle of the eclipse, when $\mathfrak{D}$ is a minimum, can not be calculated directly by help of the table (50). For this purpose we use the values of $x - X$ and $y - Y$:

Table (51)

Peking mean time	$x - X$	Differences	$y - Y$	Differences
$21{,}^h222$	$-1636''$	$+1102''$	$-856''$	$+478''$
$22{,}222$	-534	$+1024$	-378	$+424$
$23{,}222$	$+490$	$+989$	$+46$	$+365$
$0{,}222$	$+1479$	$+997$	$+411$	$+304$
$1{,}222$	$+2476$		$+715$	

It is obvious that both quantities $x - X$ and $y - Y$, from which $\mathfrak{D}$ is calculated by means of the formula $\mathfrak{D}^2 = (x - X)^2 + (y - Y)^2$, are naught between the moments $22{,}^h222$ and $23{,}^h222$ and that both are very small near $22{,}^h8$, because, according to table (51):

at	$22{,}^h6$	$22{,}^h8$	$23{,}^h0$
$x - X$	$-147''$	$+58''$	$+263''$
$y - Y$	-218	-133	-48
$(x - X)^2$	21609	3364	69169
$(y - Y)^2$	47524	17689	2304
$\mathfrak{D}^2$	69133	21053	71473
$\mathfrak{D}$	$263''$	$145''$	$267''$

As $\mathfrak{D} = 145''$ at $22{,}^h8$ lies very nearly in the middle between $263''$ and $267''$, $263''$ being nearly equal to $267''$, the smallest distance between the centres of the moon and sun is $145''$ and the middle of the eclipse $22{,}^h8$ or 1872 June 6 $10^h 48^m$ A.M. mean Peking time.

When m denotes the semidiameter of the moon and m_1 that of the sun, the darkened part of the sun's diameter is $m + m_1 - \mathfrak{D}$, therefore, if $\mathfrak{D} = 145''$ and $m + m_1 = 1842''$, the darkened part of the sun's diameter in maximo $= 1842 - 145 = 1697''$ and as the sun's diameter $= 1895''$, the magnitude of the eclipse or the maximum of occultation is $\frac{1697}{1895} = 0{,}90$, the diameter being one; or 10,8 digits.

Should the utmost exactitude be required, then the following

modified calculations are to be made.
Instead of the moon's equatorial horizontal parallax p the value $p - \frac{p}{300}\sin^2\varphi$ is to be used and instead of the moon's true semidiameter m, exhibited in the Nautical Almanac, the value $m + (p - p_1)\sin 1''.\, m \cos z$, z being the zenithal distance of the moon and calculated by the equation $\cos z = \sin\varphi \sin d + \cos\varphi \cos d \cos t_{ii}$ where t_{ii} is the moon's houre angle. Further, in calculating X and Y must be used not the geographical latitude φ but the geocentrical latitude φ_1, deduced from φ by the formula $tg.\varphi_1 = 0{,}99335\, tg.\varphi$.
Since the correction of p viz. $\frac{p}{300}\sin^2\varphi$ is in maximo only 12", that of m viz: $(p - p_1).m.\sin 1'' \cos z$ only 15" and the difference between φ and φ_1 in maximo only 11', the influence of these corrections upon the phases of the eclipse will seldom reach one or two minutes, a quantity very inconsiderable, when we take into consideration the want of precision, included in the observation of the phenomena themselves.
The solar eclipse of the 6 June 1872 I observed myself at Peking and obtained the following results.
First contact or the commencement of the eclipse not observed, the sun being covered by clouds;
An interior contact between the sun and moon did not occur;
Last contact or end of the eclipse $0^h\ 30^m$ P.M.
These observations harmonize very well with our calculations.
In conclusion I compare in the following table the results of the calculations, made by the Chinese astronomical Board (Kin tien Kien 欽天監) and by myself.

Solar eclipse June 6 1872 A.D, Peking.

	Calculated by the Chinese astronomers	Calculated by myself	Difference
First contact	$9^h\ 30^m$ A.M.	$9^h\ 13^m$ A.M.	$+17^m$
Middle of the eclipse	11 5 A.M.	10 48 A.M.	+ 17
Last contact	0 49 P.M.	0 31 P.M.	+ 18

The difference between these two calculations is only 17^m and nearly constant for all three phases, therefore probably due partly to the systematical errors of the old astronomical fundamental tables, applied by the Chinese astronomers, partly to carelessness or to imperfectness of their methods of calculation.

17. Chinese-European Calendar from the year 1624 A.D. until 1921 A.D.

In concluding my treatise on Chronology I add the elements of the Chinese and the corresponding Gregorian Calendar from the year 1624 A.D. to 1921 A.D., believing that this table will be of use in finding the Gregorian date (New Style), when the Chinese date is given and vice versa.
The Chinese data viz. the names for each New Year's Day [i.e. their place in the Chinese week of sixty days; cf. the above mentioned table (3)], further the duration of the Chinese months [29 or 30 days, by the Chinese called resp. small or great months] and the position of the Chinese intercalary month [the intercalary month, having the same No. as the antecedent month is in our Calendar always underlined] are taken from the latest edition of the "Wan Nien Shu" or the Ten thousand years' Calendar.
The duration of the Chinese months and the Chinese names for each New Year's Day (called in our Calendar B) as shown in the "Wan Nien Shu", I have always examined and in some places corrected by help of the Chinese name of the first day of every month, also given in the Wan Nien Shu, as the interval between the first days of two successive months, determined by their names or places in the Chinese week of 60 days [cf. table (3)], should be equal to the given duration of the corresponding month.
Besides this, I have calculated by means of the astronomical fundamental tables, the Nautical Almanac, Connaissance des Temps and Berliner Astronomisches Jahrbuch, about 500 Newmoon days and compared the results with the Wan Nien Shu.
The Newmoon days or the first days of the months of the Wan Nien Shu I have found wrong only in very few cases, mostly when the Newmoon happened near midnight, because the error of the Newmoon's time, determined by the Chinese astronomers, is, according to my calculations (in comparing their results with the exact figures of the Nautical Almanac) about 15 minutes on an average, so that the first day of the Chinese month becomes dubious, when the Newmoon occurs near midnight.
In some cases, if in consequence of misprint or negligence there was in my copy of the Wan Nien Shu a contradiction between the duration of the months and the names of their first days, I have brought them both into accordance by means of astronomical calculations.
To illustrate these remarks I annex the following examples.

Newmoon's Times, according to my calculation Mean Peking time	Newmoon's days according to the Wan Nien Shu	Tables, used by myself
1642 January 30 9h 21m P.M.	January 30	European tables of Sun and Moon, edited about 1790 A.D.
1643 February 18 11 34 P.M.	February 19	" " "
1842 January 12 0 8 A.M.	January 12	Newest European tables of Sun and Moon
1849 Sptbr. 16 11 48 P.M.	Sptbr. 16	" " "
1856 Nvbr. 27 11 41 P.M.	Nvbr. 27	" " "
1861 Nvbr. 2 11 49 P.M.	Nvbr. 3	" " "
1866 May 14 10 44 P.M.	May 14	" " "
1869 May 11 11 53 P.M.	May 11	" " "
1880 Nvbr. 2 11 41 P.M.	Nvbr. 3	" " "
1914 Nvbr. 17 11 39 P.M.	Nvbr. 17	European tables of Sun and Moon, edited 1790 A.D.

The Chinese year 1642 Jan. 30 – 1643 Febr. 19 has the extraordinary number of 385 days, whilst the Chinese leap years mostly contain 384, sometimes 383 days, because the mean duration is 13 · 29,5306 = 383,90 days. During the long period of 298 years, embraced by our Calendar, only this year, 1642 – 1643 contains 385 days and that is due to an error in the calculation, as shown by our comparative table, the interval between the exact determined Newmoon's days January 30 1642 and Febr. 18 1643 being only 384 days.

On January 12 1842 there is in the Wan Nien Shu a contradiction between the duration and the first days of the months and I have, in accordance with astronomical calculations and with the names of the first days in the Wan Nien Shu adopted January 12 as first day of the month in lieu of January 11th.

Though the Newmoons of 1849 Sptbr. 16 and 1856 Nvbr. 27 happened very near midnight, the dates of the Wan Nien Shu are correct.

The Newmoon 1861 Nvbr. 2 the Chinese have, in consequence of inaccurate calculation, transferred to the next day Nvbr. 3.

In the Anglo-Chinese Calendar Manual by W. F. Mayers Esq. the 15th May 1866 is erroneously adopted as the first day of the 4th month, according to the Chinese names of the first days of the 3 and 4th months, shown in the Wan Nien Shu. I have adopted the 14th May, because this date agrees with the exact astronomical calculation and the durations of the corresponding months of the Wan Nien Shu, these durations contradicting in this book the names of the first days of the months.

Further Mr. Mayers has in his Calendar adopted the 12 May 1869 as the first day of the 4th month, instead of the 11 May, though in the Wan Nien Shu there is no contradiction and May 11 is really a Newmoon's day.

Dr. Fritsche On Chronology

In regard to the Newmoon 1914 Nobr. 17 I remark, that the duration of the months in the Wan Nien Shu gives Nobr. 18, but the first days names give Nobr. 17.
I have further to mention an important correction of the Wan Nien Shu, I have made on all Gregorian dates after January 26 1884 A.D. According to the Wan Nien Shu the XIIth month of the 9th year of the Emperor Kuang-hü (1883 A.D.) has 29 days and the latter year only 353 days, so that the following Chinese Newyears days would be January 27 1884 A.D., Fbr. 14 1885 A.D. etc. .... Fbr. 7 1921 A.D.
This however must be a misprint of the Wan Nien Shu. For, the mean duration of a Chinese common year is 12 . 29,5306 = 354,37 days, therefore a year of 353 days is not admissable; further, according to my calculations Jan. 27 1884 and Fbr. 7 1921 A.D. are not Newmoon's days, but Jan. 28 1884 and Fbr. 8 1921 A.D., the Newmoon's hour not being near midnight but near noon, so that about the Newmoon's date there can not be any doubt; and finally there is in the Wan Nien Shu a contradiction, the first month of the 10th year of Kuanghü consisting, according to the duration of this month, of 30 days and according to the names of the first days of the first and second month, of 31 days, a result, which can not take place, as the Chinese month can only have 29 or 30 days. For these reasons I have adopted as Chinese Newyear's days 1884 Jan. 28, 1885 Fbr. 15 ..... 1921 Fbr. 8.
This error of the Wan Nien Shu has been transferred to the Anglo-Chinese Calendar from 1880 A.D. to 1891 A.D. by G. M. H. Playfair Esq., wherein, therefore all dates after January 26 1884 A.D. are wrong.

The intercalary month of the Chinese Calendar does not at times agree with exact calculations. Thus for instance the Chinese astronomers have adopted the lunation 1851 Sptbr. 25 – Octbr. 24 as intercalary month, whilst the calculation gives 1852 March 21 – Apr. 19; likewise the lunation 1881 Agst. 25 – Sptbr 23 is according to the Wan Nien Shu an intercalary month, whilst it should be, according to the general rule 1881 Sptbr. 23 – Octbr. 23. In the following Chinese-European Calendar

T denotes the European (Christian or Foreign) year A.D.
C " the No. of the Chinese cycle of 60 years
Y " the year of the cycle C of 60 years
E " " " of the Chinese Emperor
Z " the Chinese Lunar cycle
B " the Chinese name and place of the Chinese Newyear's day in the cycle C
I, II .... XII denote the date of the Gregorian Calendar, corresponding to the first day of the Chinese Ith, IIth etc. month and duration of each Chinese month;
S denotes the annual sum of days of the Chinese year.

European year A.D. T	No. of the Chinese cycle of 60 years C	Year of the Chinese cycle C y	Year of the Chinese Emperor E	Chinese Lunar cycle Z	Chinese name and place of the Chinese Newyear's day in the Chinese week of 60 days B	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Annual sum of days S
1624	72	1	Ming Dynasty Tien-tsi 4	9	Ping Chên 53	Fbr.19 29	Mr.19 30	Ap.18 29	May 17 30	Jun.16 29	Jul.15 30	Ag.14 30	Sp.13 29	Oct.12 30	Nv.11 29	Dc.10 30	Ja.9 29	354
1625		2	5	10	Keng Sü 47	Fbr.7 30	Mr.9 29	Ap.7 29	May 6 30	Jun.5 29	Jul.4 30	Ag.3 30	Sp.2 29	Oct.1 30	Oct.31 30	Nv.30 29	Dc.29 30	355
1626		3	6	11	Yih Sze 42	Ja.28 29	Fbr.26 30	Mr.28 29	Ap.26 29	May25 Jun24 30 29	Jul.23 30	Ag.22 29	Sp.20 30	Oct.20 30	Nv.19 30	Dc.19 29	Ja.17 30	384
1627		4	7	12	Ki Sze 6	Fbr.16 29	Mr.17 30	Ap.16 29	May 15 29	Jun.13 30	Jul.13 29	Ag.11 29	Sp.9 30	Oct.9 30	Nv.8 30	Dc.8 30	Ja.7 29	354
1628		5	Chung-chêu } 1	13	Kwei Hai 60	Fbr.5 30	Mr.6 29	Ap.4 30	May 4 29	Jun.2 29	Jul.1 30	Jul.31 29	Ag.29 29	Sp.27 30	Oct.27 30	Nv.26 29	Dc.25 30	354
1629		6	2	14	Ting Sze 54	Ja.24 30	Fbr.23 30	Mr.25 29	Ap.23 May23 30 29	Jun.21 29	Jul.20 30	Ag.19 29	Sp.17 29	Oct.16 30	Nv.15 30	Dc.15 29	Ja.13 30	384
1630		7	3	15	Sin Sze 18	Fbr.12 30	Mr.14 30	Ap.13 29	May 12 30	Jun.11 29	Jul.10 29	Ag.8 30	Sp.7 29	Oct.6 29	Nv.4 30	Dc.4 29	Ja.2 30	354
1631		8	4	16	Yih Hai 12	Fbr.1 30	Mr.3 30	Ap.2 29	May 1 30	May 31 29	Jun.29 30	Jul.29 29	Ag.27 30	Sp.26 29	Oct.25 29	Nv.23 30	Dc.23 29	354
1632		9	5	17	Ki Sze 6	Ja.21 30	Fbr.20 Mr.21 30 29	Ap.19 30	May 19 30	Jun.18 29	Jul.17 30	Ag.16 29	Sp.14 30	Oct.14 29	Nv.12 30	Dc.12 29	Ja.10 29	384
1633		10	6	18	Kwei Sze 30	Fbr.8 30	Mr.10 29	Ap.8 30	May 8 30	Jun.7 29	Jul.6 30	Ag.5 29	Sp.3 30	Oct.3 30	Nv.2 29	Dc.1 30	Dc.31 29	355
1634		11	7	19	Wu Tsze 25	Ja.29 30	Fbr.28 29	Mr.29 29	Ap.27 30	May 27 29	Jun.25 Jul.25 30 29	Ag.23 30	Sp.22 30	Oct.22 30	Nv.21 29	Dc.20 30	Ja.19 29	384
1635		12	8	1	Jen Tsze 49	Fbr.17 30	Mr.19 29	Ap.17 29	May 16 30	Jun.15 29	Jul.14 30	Ag.13 29	Sp.11 30	Oct.11 30	Nv.10 29	Dc.9 30	Ja.8 30	355

Date of the Gregorian Calendar (New style), corresponding to the first day of the Chinese I, II etc. months and duration of each Chinese month. The intercalary months are underlined.

T	c	y	E	z	B	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	J
1636	72	13	Ch'ung-chên 9	2	Ting Wei 44	Fbr. 7	Mr. 7	Ap. 6	May 5	Jun. 3	Jul. 3	Ag. 1	Ag. 30	Sp. 29	Oct. 29	Nv. 27	Dc. 27	
						29	30	29	29	30	29	29	30	30	29	30	30	354
1637		14	10	3	Sin Chow 38	Ja. 26	Fbr. 25	Mr. 26	Ap. 25	May 24 Jun. 22	Jul. 22	Ag. 20	Sp. 18	Oct. 18	Nv. 16	Dc. 16	Ja. 15	
						30	29	30	29	29 30	29	29	30	29	30	30	30	384
1638		15	11	4	Yih Chow 2	Fbr. 14	Mr. 16	Ap. 14	May 14	Jun. 12	Jul. 11	Ag 10	Sp. 8	Oct. 7	Nv. 6	Dc. 5	Ja. 4	
						30	29	30	29	29	30	29	29	30	29	30	30	354
1639		16	12	5	Ki Wei 56	Fbr. 3	Mr. 5	Ap. 3	May 3	Jun. 1	Jul. 1	Jul. 30	Ag. 29	Sp. 27	Oct. 26	Nv. 25	Dc. 24	
						30	29	30	29	30	29	30	29	29	30	29	30	354
1640		17	13	6	Kwei Chow 50	Ja. 23	Fbr. 22	Mr. 22	Ap. 21 May 21	Jun. 19	Jul. 19	Ag. 17	Sp. 16	Oct. 15	Nv. 13	Dc. 13	Ja. 11	
						30	29	30	30 29	30	29	30	29	29	30	29	30	384
1641		18	14	7	Ting Chow 14	Fbr. 10	Mr. 11	Ap. 10	May 10	Jun. 8	Jul. 8	Ag. 7	Sp. 5	Oct. 5	Nv. 3	Dc. 3	Ja. 1	
						29	30	30	29	30	30	29	30	29	30	29	29	354
1642		19	15	8	Sin Wei 8	Ja. 30	Mr. 1	Mr. 30	Ap. 29	May 28	Jun. 27	Jul. 27	Ag. 25	Sp. 24 Oct. 24	Nv. 22	Dc. 22	Ja. 20	
						30	29	30	29	30	30	29	30	30 29	30	29	30	385
1643		20	16	9	Ping Shên 33	Fbr. 19	Mr. 20	Ap. 18	May 18	Jun. 16	Jul. 16	Ag. 14	Sp. 13	Oct. 13	Nv. 11	Dc. 11	Ja. 10	
			Manchu Dynasty			29	29	30	29	30	29	30	30	29	30	30	29	354
1644		21	Shun-chih 1	10	Kêng Yin 27	Fbr. 8	Mr. 9	Ap. 7	May 6	Jun. 5	Jul. 4	Ag. 2	Sp. 1	Oct. 1	Oct. 30	Nv. 29	Dc. 29	
						30	29	29	30	29	29	30	30	29	30	30	30	355
1645		22	2	11	Yih Yeo 22	Ja. 28	Fbr. 26	Mr. 28	Ap. 26	May 25	Jun. 24 Jul. 23	Ag. 21	Sp. 20	Oct. 19	Nv. 18	Dc. 18	Ja. 17	
						29	30	29	29	30	29 29	30	29	30	30	30	30	384
1646		23	3	12	Ki Yeo 46	Fbr. 16	Mr. 17	Ap. 16	May 15	Jun. 13	Jul. 13	Ag. 11	Sp. 9	Oct. 9	Nv. 7	Dc. 7	Ja. 6	
						29	30	29	29	30	29	29	30	29	30	30	30	354
1647		24	4	13	Kwei Mao 40	Fbr. 5	Mr. 6	Ap. 5	May 5	Jun. 3	Jul. 2	Ag. 1	Ag. 30	Sp. 28	Oct. 28	Nv. 26	Dc. 26	
						29	30	30	29	29	30	29	29	30	29	30	30	354
1648		25	5	14	Ting Yeo 34	Ja. 25	Fbr. 23	Mr. 24	Ap. 23 May 22	Jun. 21	Jul. 20	Ag. 19	Sp. 17	Oct. 16	Nv. 15	Dc. 14	Ja. 13	
						29	30	30	29 30	29	30	29	29	30	29	30	29	383
1649		26	6	15	Kêng Shên 57	Fbr. 11	Mr. 13	Ap. 12	May 11	Jun. 10	Jul. 10	Ag. 8	Sp. 7	Oct. 6	Nv. 4	Dc. 4	Ja. 2	
						30	30	29	30	30	29	30	29	29	30	29	30	355

T	C	Y	E	Z	B	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	J
1650	72	27	Shun-chih 7	16	Yih Mao 52	Fbr.1	Mr.2	Ap.1	May 1	May 30	Jun.29	Jul.28	Ag.27	Sp.26	Oct.25	Nv.23	Dc.23	
						29	30	30	29	30	29	30	30	29	29	30	29	354
1651		28	8	17	Ki Yeo 46	Ja.21	Fbr.20 Mr.21	Ap.20	May 19	Jun.18	Jul.17	Ag.16	Sp.15	Oct.14	Nv.13	Dc.13	Ja.11	
						30	29 30	29	30	29	30	30	29	30	30	29	29	384
1652		29	9	18	Kwei Yeo 10	Fbr.9	Mr.10	Ap.8	May 8	Jun.6	Jul.6	Ag.4	Sp.3	Oct.3	Nv.1	Dc.1	Dc.31	
						30	29	30	29	30	29	30	30	29	30	30	29	355
1653		30	10	19	Wu Chên 5	Ja.29	Fbr.28	Mr.29	Ap.27	May 27	Jun.25 Jul.24	Ag.23	Sp.22	Oct.21	Nv.20	Dc.20	Ja.18	
						30	29	29	30	29	29 30	30	29	30	30	29	30	384
1654		31	11	1	Jên Chên 29	Fbr.17	Mr.19	Ap.17	May 16	Jun.15	Jul.14	Ag.12	Sp.11	Oct.10	Nv.9	Dc.9	Ja.8	
						30	29	29	30	29	29	30	29	30	30	30	29	354
1655		32	12	2	Ping Sü 23	Fbr.6	Mr.8	Ap.7	May 6	Jun.4	Jul.4	Ag.2	Ag.31	Sp.30	Oct.29	Nv.28	Dc.28	
						30	30	29	29	30	29	29	30	29	30	30	29	354
1656		33	13	3	Kêng Chên 17	Ja.26	Fbr.25	Mr.26	Ap.24	May 24 Jun.22	Jul.22	Ag.20	Sp.18	Oct.18	Nv.16	Dc.16	Ja.14	
						30	30	29	30	29 30	29	29	30	29	30	29	30	384
1657		34	14	4	Kiah Chên 41	Fbr.13	Mr.15	Ap.14	May 13	Jun.12	Jul.11	Ag.10	Sp.8	Oct.7	Nv.6	Dc.5	Jan.4	
						30	30	29	30	29	30	29	29	30	29	30	29	354
1658		35	15	5	Wu Sü 35	Fbr.2	Mr.4	Ap.3	May 2	Jun.1	Jul.1	Jul.30	Ag.29	Sp.27	Oct.26	Nv.25	Dc.24	
						30	30	29	30	30	29	30	29	29	30	29	30	355
1659		36	16	6	Kwei Sze 30	Ja.23	Fbr.21	Mr.23 Ap.21	May 21	Jun.20	Jul.19	Ag.18	Sp.16	Oct.16	Nv.14	Dc.14	Ja.12	
						29	30	29 30	30	29	30	29	30	29	30	29	30	384
1660		37	17	7	Ting Sze 54	Fbr.11	Mr.11	Ap.10	May 9	Jun.8	Jul.7	Ag.6	Sp.5	Oct.4	Nv.3	Dc.2	Ja.1	
						29	30	29	30	29	30	30	29	30	29	30	29	354
1661		38	18	8	Sin Hai 48	Ja.30	Mr.1	Mr.30	Ap.29	May 28	Jun.26	Jul.26 Ag.25	Sp.23	Oct.23	Nv.22	Dc.21	Ja.20	
						30	29	30	29	29	30	30 29	30	30	29	30	29	384
1662		39	Kang-hi 1	9	Yih Hai 12	Fbr.18	Mr.20	Ap.18	May 18	Jun.16	Jul.15	Ag.14	Sp.12	Oct.12	Nv.11	Dc.11	Ja.9	
						30	29	30	29	29	30	29	30	30	30	29	30	355
1663		40	2	10	Kêng Wu 7	Fbr.8	Mr.10	Ap.8	May 7	Jun.6	Jul.5	Ag.3	Sp.2	Oct.1	Oct.31	Nv.30	Dc.29	
						30	29	29	30	29	29	30	29	30	30	29	30	354

T	c	y	E	z	B	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	J
1664	72	41	Kang-hi 3	11	Kiah Tsze 1	Ja. 28	Fbr. 27	Mr. 27	Ap. 26	May 25	Jun. 24 Jul. 23	Ag. 21	Sp. 20	Oct. 19	Nv. 18	Dc. 17	Ja. 16	
						30	29	30	29	30	29 29	30	29	30	29	30	30	384
1665		42	4	12	Wu Tsze 25	Fbr. 15	Mr. 17	Ap. 15	May 15	Jun. 13	Jul. 13	Ag. 11	Sp. 9	Oct. 9	Nv. 7	Dc. 7	Ja. 5	
						30	29	30	29	30	29	29	30	29	30	29	30	354
1666		43	5	13	Yên Wu 19	Fbr. 4	Mr. 6	Ap. 4	May 4	Jun 3	Jul. 2	Ag. 1	Ag. 30	Sp. 28	Oct. 28	Nv. 26	Dc. 26	
						30	29	30	30	29	30	29	29	30	29	30	29	354
1667		44	6	14	Ping Tsze 13	Ja. 24	Fbr. 23	Mr. 24	Ap. 23 May 23	Jun. 21	Jul. 21	Ag. 19	Sp. 18	Oct. 17	Nv. 16	Dc. 15	Ja. 14	
						30	29	30	30 29	30	29	30	29	30	29	30	29	384
1668		45	7	15	Kêng Tsze 37	Fbr. 12	Mr. 13	Ap. 11	May 11	Jun. 9	Jul. 9	Ag. 8	Sp. 6	Oct. 6	Nv. 4	Dc. 4	Ja. 2	
						30	29	30	29	30	30	29	30	29	30	29	30	355
1669		46	8	16	Yih Wei 32	Fbr. 1	Mr. 2	Ap. 1	Ap. 30	May 30	Jun. 28	Jul. 28	Ag. 26	Sp. 25	Oct. 25	Nv. 23	Dc. 23	
						29	30	29	30	29	30	29	30	30	29	30	29	354
1670		47	9	17	Ki Chow 26	Ja. 21	Fbr. 20 Mr. 21	Ap. 20	May 19	Jun. 17	Jul. 17	Ag. 15	Sp. 14	Oct. 14	Nv. 13	Dc. 12	Ja. 11	
						30	29 30	29	29	30	29	30	30	30	29	30	29	384
1671		48	10	18	Kwei Chow 50	Fbr. 9	Mr. 11	Ap. 9	May 9	Jun. 7	Jul. 6	Ag. 5	Sp. 3	Oct. 3	Nv. 2	Dc. 1	Dc. 31	
						30	29	30	29	29	30	29	30	30	29	30	30	355
1672		49	11	19	Wu Shên 45	Ja. 30	Fbr. 28	Mr 29	Ap. 27	May 27	Jun. 25	Jul. 24 Ag. 23	Sp. 21	Oct. 21	Nv. 19	Dc. 19	Ja. 18	
						29	30	29	30	29	29	30 29	30	29	30	30	30	384
1673		50	12	1	Yên Shên 9	Fbr. 17	Mr. 18	Ap. 17	May 16	Jun. 15	Jul. 14	Ag. 12	Sp. 11	Oct. 10	Nv. 9	Dc. 8	Ja. 7	
						29	30	29	30	29	29	30	29	30	29	30	30	354
1674		51	13	2	Ping Yin 3	Fbr. 6	Mr. 7	Ap. 6	May 6	Jun. 4	Jul. 4	Ag. 2	Ag. 31	Sp. 30	Oct. 29	Nv. 27	Dc. 27	
						29	30	30	29	30	29	29	30	29	29	30	30	354
1675		52	14	3	Kêng Shên 57	Ja. 26	Fbr. 24	Mr. 26	Ap. 25	May 25 Jun. 23	Jul. 23	Ag. 21	Sp. 19	Oct. 19	Nv. 17	Dc. 17	Jan. 15	
						29	30	30	30	29 30	29	29	30	29	30	29	30	384
1676		53	15	4	Kiah Shên 21	Fbr. 14	Mr. 14	Ap. 13	May 13	Jun. 11	Jul. 11	Ag. 9	Sp. 8	Oct. 7	Nv. 6	Dc. 5	Ja. 4	
						29	30	30	29	30	29	30	29	30	29	30	29	354
1677		54	16	5	Wu Yin 15	Fbr. 2	Mr. 4	Ap. 2	May 2	May 31	Jun. 30	Jul. 30	Ag 28	Sp. 27	Oct. 26	Nv. 25	Dc. 24	
						30	29	30	29	30	30	29	30	29	30	29	30	355

J	C	Y	E	Z	B	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	J
1678	72	55	Kang-hi 17	6	Kwei Yeo 10	Ja.23	Fbr.21	Mr.23 Ap.21	May 20	Jun.19	Jul.19	Ag.17	Sp.16	Oct.16	Nv.14	Dc.14	Ja.12	
						29	30	29 29	30	30	29	30	30	29	30	29	30	384
1679		56	18	7	Ting Yeo 34	Fbr.11	Mr.12	Ap.11	May 10	Jun.8	Jul.8	Ag.6	Sp.5	Oct.5	Nv.3	Dc.3	Jan.2	
						29	30	29	29	30	29	30	30	29	30	30	29	354
1680		57	19	8	Sin Mao 28	Ja.31	Mr.1	Mr.30	Ap.29	May 28	Jun.26	Jul.26	Ag.24 Sp.23	Oct.22	Nv.21	Dc.21	Ja.20	
						30	29	30	29	29	30	29	30 29	30	30	30	29	384
1681		58	20	9	Yih Mao 52	Fbr.18	Mr.20	Ap.18	May 18	Jun.16	Jul.15	Ag.14	Sp.12	Oct.11	Nv.10	Dc.10	Ja.9	
						30	29	30	29	29	30	29	29	30	30	30	29	354
1682		59	21	10	Ki Yeo 46	Fbr.7	Mr.9	Ap.8	May 7	Jun.6	Jul.5	Ag.3	Sp.2	Oct.1	Oct.30	Nv.29	Dc.29	
						30	30	29	30	29	29	30	29	29	30	30	29	354
1683		60	22	11	Kwei Mao 40	Ja.27	Fbr.26	Mr.28	Ap.27	May 26	Jun.25 Jul.24	Ag.22	Sp.21	Oct.20	Nv.18	Dc.18	Ja.17	
						30	30	30	29	30	29 29	30	29	29	30	30	29	384
1684	73	1	23	12	Ting Mao 4	Fbr.15	Mr.16	Ap.15	May 14	Jun.13	Jul.12	Ag.11	Sp.9	Oct.9	Nv.7	Dc.6	Ja.5	
						30	30	29	30	29	30	29	30	29	29	30	29	354
1685		2	24	13	Sin Yeo 58	Fbr.3	Mr.5	Ap.4	May 3	Jun.2	Jul.2	Jul.31	Ag.30	Sp.28	Oct.28	Nv.26	Dc.26	
						30	30	29	30	30	29	30	29	30	29	30	29	355
1686		3	25	14	Ping Ch'ên 53	Ja.24	Fbr.22	Mr.24	Ap.23 May 22	Jun.21	Jul.20	Ag.19	Sp.18	Oct.17	Nv.16	Dc.15	Ja.14	
						29	30	30	29 30	29	30	30	29	30	29	30	29	384
1687		4	26	15	Kêng Ch'ên 17	Fbr.12	Mr.13	Ap.12	May 11	Jun.10	Jul.9	Ag.8	Sp.7	Oct.6	Nv.5	Dc.5	Jan.3	
						29	30	29	30	29	30	30	29	30	30	29	30	355
1688		5	27	16	Yih Hai 12	Fbr.2	Mr.2	Ap.1	Ap.30	May 29	Jun.28	Jul.27	Ag.26	Sp.24	Oct.24	Nv.23	Dc.23	
						29	30	29	29	30	29	30	29	30	30	30	29	354
1689		6	28	17	Ki Sze 6	Ja.21	Fbr.20	Mr.21 Ap.20	May 19	Jun.17	Jul.17	Ag.15	Sp.13	Oct.13	Nv.12	Dc.12	Jan.10	
						30	29	30 29	29	30	29	29	30	30	30	29	30	384
1690		7	29	18	Kwei Sze 30	Fbr.9	Mr.11	Ap.9	May 9	Jun.7	Jul.6	Ag.5	Sp.3	Oct.2	Nv.1	Dc.1	Dc.30	
						30	29	30	29	29	30	29	29	30	30	29	30	354
1691		8	30	19	Ting Hai 24	Ja.29	Fbr.28	Mr.30	Ap.28	May 28	Jun.26	Jul.25 Ag.24	Sp.22	Oct.21	Nv.20	Dc.19	Ja.18	
						30	30	29	30	29	29	30 29	29	30	29	30	30	384

T	c	y	E	z	B	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	J
1692	73	9	K'ang-hi 31	1	Sin Hai 48	Fbr.17	Mr.18	Ap.16	May 16	Jun.15	Jul.14	Ag.12	Sp.11	Oct.10	Nv.8	Dc.8	Ja.6	
						30	29	30	30	29	29	30	29	29	30	29	30	354
1693		10	32	2	Yih Sze 42	Fbr.5	Mr.7	Ap.6	May 5	Jun.4	Jul.3	Ag.2	Ag.31	Sp.30	Oct.29	Nv.27	Dc.27	
						30	30	29	30	29	30	29	30	29	29	30	29	354
1694		11	33	3	Ki Hai 36	Ja.25	Fbr.24	Mr.26	Ap.24	May 24 Jun.22	Jul.22	Ag.21	Sp.19	Oct.19	Nv.17	Dc.17	Ja.15	
						30	30	29	30	29 30	30	29	30	29	30	29	29	384
1695		12	34	4	Kwei Hai 60	Fbr.13	Mr.15	Ap.13	May 13	Jun.12	Jul.11	Ag.10	Sp.8	Oct.8	Nv.7	Dc.6	Ja.5	
						30	29	30	30	29	30	29	30	30	29	30	29	355
1696		13	35	5	Wu Wu 55	Fbr.3	Mr.3	Ap.2	May 1	May 31	Jun.29	Jul.29	Ag.27	Sp.26	Oct.26	Nv.25	Dc.24	
						29	30	29	30	29	30	29	30	30	30	29	30	356
1697		14	36	6	Kwei Ch'ow 50	Ja.23	Fbr.21	Mr.23 Ap.21	May 20	Jun.19	Jul.18	Ag.17	Sp.15	Oct.15	Nv.14	Dc.13	Ja.12	
						29	30	29 29	30	29	30	29	30	30	29	30	30	384
1698		15	37	7	Ting Ch'ow 14	Fbr.11	Mr.12	Ap.11	May 10	Jun.8	Jul.8	Ag.6	Sp.4	Oct.4	Nv.3	Dc.2	Ja.1	
						29	30	29	29	30	29	29	30	30	29	30	30	354
1699		16	38	8	Sin Wei 8	Ja.31	Mr.2	Mr.31	Ap.30	May 29	Jun.27	Jul.27 Ag.25	Sp.23	Oct.23	Nv.21	Dc.21	Ja.20	
						30	29	30	29	29	30	29 29	30	29	30	30	30	384
1700		17	39	9	Yih Wei 32	Fbr.19	Mr.21	Ap.19	May 19	Jun.17	Jul.16	Ag.15	Sp.13	Oct.12	Nv.11	Dc.10	Ja.9	
						30	29	30	29	29	30	29	29	30	29	30	30	354
1701		18	40	10	Ki Ch'ow 26	Fbr.8	Mr.10	Ap.8	May 8	Jun.6	Jul.6	Ag.4	Sp.3	Oct.2	Oct.31	Nv.30	Dc.29	
						30	29	30	29	30	29	30	29	29	30	29	30	354
1702		19	41	11	Kwei Wei 20	Ja.28	Fbr.27	Mr.28	Ap.27	May 27	Jun.25 Jul.25	Ag.23	Sp.22	Oct.21	Nv.19	Dc.19	Ja.17	
						30	29	30	30	29	30 29	30	29	29	30	29	30	384
1703		20	42	12	Ting Wei 44	Fbr.16	Mr.17	Ap.16	May 16	Jun.14	Jul.14	Ag.13	Sp.11	Oct.11	Nv.9	Dc.8	Ja.7	
						29	30	30	29	30	30	29	30	29	29	30	29	354
1704		21	43	13	Sin Ch'ow 38	Fbr.5	Mr.6	Ap.4	May 4	Jun.2	Jul.2	Ag.1	Ag.30	Sp.29	Oct.29	Nv.27	Dc.27	
						30	29	30	29	30	30	29	30	30	29	30	29	355
1705		22	44	14	Ping Shin 33	Ja.25	Fbr.23	Mr.25	Ap.23 May 23	Jun.21	Jul.21	Ag.19	Sp.18	Oct.18	Nv.16	Dc.16	Ja.15	
						29	30	29	30 29	30	29	30	30	29	30	30	29	384

T	C	Y	E	Z	B	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	J
1706	73	23	Kang-hi 45	15	Kêng Shîn 57	Fbr. 13	Mr. 15	Ap. 13	May 12	Jun. 11	Jul. 10	Ag. 8	Sp. 7	Oct. 7	Nv. 5	Dc. 5	Ja. 4	
						30	29	29	30	29	29	30	30	29	30	30	30	355
1707		24	46	16	Yih Mao 52	Fbr. 3	Mr. 4	Ap. 3	May 2	May 31	Jun. 30	Jul. 29	Ag. 27	Sp. 26	Oct. 25	Nv. 24	Dc. 24	
						29	30	29	29	30	29	29	30	29	30	30	30	354
1708		25	47	17	Ki Yeo 46	Ja. 23	Fbr. 21	Mr. 22 Ap. 21	May 20	Jun. 18	Jul. 18	Ag. 16	Sp. 14	Oct. 14	Nv. 12	Dc. 12	Ja. 11	
						29	30	30 29	29	30	29	29	30	29	30	30	30	384
1709		26	48	18	Kwei Yeo 10	Fbr. 10	Mr. 11	Ap. 10	May 10	Jun. 8	Jul. 7	Ag. 6	Sp. 4	Oct. 3	Nv. 2	Dc. 1	Dc. 31	
						29	30	30	29	29	30	29	29	30	29	30	30	354
1710		27	49	19	Ting Mao 4	Ja. 30	Fbr. 28	Mr. 30	Ap. 29	May 28	Jun. 27	Jul. 26 Ag. 25	Sp. 23	Oct. 22	Nv. 21	Dc. 20	Ja. 19	
						29	30	30	29	30	29	30 29	29	30	29	30	29	383
1711		28	50	1	Kêng Yin 27	Fbr. 17	Mr. 19	Ap. 18	May 17	Jun. 16	Jul. 16	Ag. 14	Sp. 13	Oct. 12	Nv. 10	Dc. 10	Ja. 8	
						30	30	29	30	30	29	30	29	29	30	29	30	355
1712		29	51	2	Yih Yeo 22	Fbr. 7	Mr. 7	Ap. 6	May 5	Jun. 4	Jul. 4	Ag. 2	Sp. 1	Sp. 30	Oct. 30	Nv. 28	Dc. 28	
						29	30	29	30	30	29	30	29	30	29	30	29	354
1713		30	52	3	Ki Mao 16	Ja. 26	Fbr. 25	Mr. 26	Ap. 25	May 24 Jun. 23	Jul. 22	Ag. 21	Sp. 20	Oct. 19	Nv. 18	Dc. 18	Ja. 16	
						30	29	30	29	30 29	30	30	29	30	30	29	29	384
1714		31	53	4	Kwei Mao 40	Fbr. 14	Mr. 16	Ap. 14	May 14	Jun. 12	Jul. 12	Ag. 10	Sp. 9	Oct. 8	Nv. 7	Dc. 7	Ja. 6	
						30	29	30	29	30	29	30	29	30	30	30	29	355
1715		32	54	5	Wu Sü 35	Fbr. 4	Mr. 6	Ap. 4	May 3	Jun. 2	Jul. 1	Jul. 30	Ag. 29	Sp. 27	Oct. 27	Nv. 26	Dc. 26	
						30	29	29	30	29	29	30	29	30	30	30	29	354
1716		33	55	6	Jên Chên 29	Ja. 24	Fbr. 23	Mr. 24 Ap. 22	May 21	Jun. 20	Jul. 19	Ag. 17	Sp. 16	Oct. 15	Nv. 14	Dc. 14	Ja. 13	
						30	30	29 29	30	29	29	30	29	30	30	30	29	384
1717		34	56	7	Ting Chên 53	Fbr. 11	Mr. 13	Ap. 12	May 11	Jun. 9	Jul. 9	Ag. 7	Sp. 5	Oct. 5	Nv. 3	Dc. 3	Ja. 2	
						30	30	29	29	30	29	29	30	29	30	30	29	354
1718		35	57	8	Kêng Sü 47	Ja. 31	Mr. 2	Ap. 1	Ap. 30	May 30	Jun. 28	Jul. 28	Ag. 26 Sp. 24	Oct. 24	Nv. 22	Dc. 22	Ja. 20	
						30	30	29	30	29	30	29	29 30	29	30	29	30	384
1719		36	58	9	Kiah Sü 11	Fbr. 19	Mr. 21	Ap. 20	May 19	Jun. 18	Jul. 17	Ag. 16	Sp. 14	Oct. 13	Nv. 12	Dc. 11	Ja. 10	
						30	30	29	30	29	30	29	29	30	29	30	29	354

J	C	Y	E	Z	B	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	J
1720	73	37	Kang-hi 59	10	Wu Chin 5	Fbr. 8 30	Mr. 9 30	Ap. 8 29	May 7 30	Jun. 6 29	Jul. 5 30	Ag. 4 29	Sp. 2 30	Oct. 2 29	Oct. 31 30	Nv. 30 29	Dc. 29 30	355
1721		38	60	11	Kvei Hai 60	Ja. 28 29	Fbr. 26 30	Mr. 28 29	Ap. 26 30	May 26 30	Jun. 25 Jul. 24 29 30	Ag. 23 29	Sp. 21 30	Oct. 21 29	Nv. 19 30	Dc. 19 29	Ja. 17 30	384
1722		39	61	12	Ting Hai 24	Fbr. 16 29	Mr. 17 30	Ap. 16 29	May 15 30	Jun. 14 29	Jul. 13 30	Ag. 12 30	Sp. 11 29	Oct. 10 30	Nv. 9 29	Dc. 8 30	Ja. 7 29	354
1723		40	Yung-cheng 1	13	Sin Sze 18	Fbr. 5 30	Mr. 7 29	Ap. 5 30	May 5 29	Jun. 3 29	Jul. 2 30	Ag. 1 30	Ag. 31 29	Sp. 29 30	Oct. 29 30	Nv. 28 29	Dc. 27 30	355
1724		41	2	14	Ping Tsze 13	Ja. 26 29	Fbr. 24 30	Mr. 25 29	Ap. 23 May 23 30 29	Jun. 21 29	Jul. 20 30	Ag. 19 29	Sp. 17 30	Oct. 17 30	Nv. 16 30	Dc. 16 29	Ja. 14 30	384
1725		42	3	15	Kêng Tsze 37	Fbr. 13 29	Mr. 14 30	Ap. 13 29	May 12 30	Jun. 11 29	Jul. 10 29	Ag. 8 30	Sp. 7 29	Oct. 6 30	Nv. 5 30	Dc. 5 29	Ja. 3 30	354
1726		43	4	16	Kiah Wu 31	Fbr. 2 30	Mr. 4 29	Ap. 2 30	May 2 29	May 31 30	Jun. 30 29	Jul. 29 29	Ag. 27 30	Sp. 26 29	Oct. 25 30	Nv. 24 29	Dc. 23 30	354
1727		44	5	17	Wu Tsze 25	Ja. 22 30	Fbr. 21 30	Mr. 23 Ap. 21 29 30	May 21 29	Jun. 19 30	Jul. 19 29	Ag. 17 29	Sp. 15 30	Oct. 15 29	Nv. 13 30	Dc. 13 29	Ja. 11 30	384
1728		45	6	18	Jin Tsze 49	Fbr. 10 30	Mr. 11 29	Ap. 9 30	May 9 30	Jun. 8 29	Jul. 7 30	Ag. 6 29	Sp. 4 29	Oct. 3 30	Nv. 2 29	Dc. 1 30	Dc. 31 29	354
1729		46	7	19	Ping Wu 43	Ja. 29 30	Fbr. 28 29	Mr. 29 30	Ap. 28 30	May 28 29	Jun. 26 30	Jul. 26 Ag. 24 29 30	Sp. 23 29	Oct. 22 30	Nv. 21 29	Dc. 20 30	Ja. 19 29	384
1730		47	8	1	Kêng Wu 7	Fbr. 17 30	Mr. 19 29	Ap. 17 30	May 17 29	Jun. 15 30	Jul. 15 30	Ag. 14 29	Sp. 12 30	Oct. 12 29	Nv. 10 30	Dc. 10 29	Ja. 8 30	355
1731		48	9	2	Yih Ch'ow 2	Fbr. 7 29	Mr. 8 30	Ap. 7 29	May 6 30	Jun. 5 29	Jul. 4 30	Ag. 3 29	Sp. 1 30	Oct. 1 30	Oct. 31 29	Nv. 29 30	Dc. 29 29	354
1732		49	10	3	Ki Wei 56	Ja. 27 30	Fbr. 26 29	Mr. 26 30	Ap. 25 29	May 24 Jun. 22 29 30	Jul. 22 29	Ag. 20 30	Sp. 19 30	Oct. 19 30	Nv. 18 29	Dc. 17 30	Ja. 16 29	384
1733		50	11	4	Kvei Wei 20	Fbr. 14 30	Mr. 16 29	Ap. 14 30	May 14 29	Jun. 12 29	Jul. 11 30	Ag. 10 29	Sp. 8 30	Oct. 8 30	Nv. 7 29	Dc. 6 30	Ja. 5 30	355

T	C	Y	E	Z	B	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	J
1734	73	51	Yung-cheng 12	5	Wu Yin 15	Fbr.4	Mr.5	Ap.4	May 3	Jun.2	Jul.1	Jul.30	Ag.29	Sp.27	Oct.27	Nv.25	Dc.25	
						29	30	29	30	29	29	30	29	30	29	30	30	354
1735		52	13	6	Yên Shîn 9	Ja.24	Fbr.23	Mr.24	Ap.23 May22	Jun.21	Jul.20	Ag.18	Sp.16	Oct.16	Nv.14	Dc.14	Ja.13	
						30	29	30	29 30	29	29	29	30	29	30	30	30	384
1736		53	Tsien-lung 1	7	Ping Shîn 33	Fbr.12	Mr.12	Ap.11	May 11	Jun.9	Jul.9	Ag.7	Sp.5	Oct.5	Nv.3	Dc.2	Ja.1	
						29	30	30	29	30	29	29	30	29	29	30	30	354
1737		54	2	8	Kêng Yin 27	Ja.31	Mr.1	Mr.31	Ap.30	May29	Jun.28	Jul.27	Ag.26	Sp.24 Oct.24	Nv.22	Dc.21	Ja.20	
						29	30	30	29	30	29	30	29	30 29	29	30	30	384
1738		55	3	9	Kiah Yin 51	Fbr.19	Mr.20	Ap.19	May19	Jun.17	Jul.17	Ag.15	Sp.14	Oct.13	Nv.12	Dc.11	Ja.10	
						29	30	30	29	30	29	30	29	30	29	30	29	354
1739		56	4	10	Wu Shîn 45	Fbr.8	Mr.10	Ap.8	May 8	Jun.6	Jul.6	Ag.4	Sp.3	Oct.3	Nv.1	Dc.1	Dc.30	
						30	29	30	29	30	29	30	30	29	30	29	30	355
1740		57	5	11	Kwei Mao 40	Ja.29	Fbr.27	Mr.28	Ap.26	May25	Jun.24 Jul.24	Ag.22	Sp.21	Oct.21	Nv.19	Dc.19	Ja.17	
						29	30	29	29	30	30 29	30	30	29	30	29	30	384
1741		58	6	12	Ting Mao 4	Fbr.16	Mr.17	Ap.16	May15	Jun.13	Jul.13	Ag.11	Sp.10	Oct.10	Nv.8	Dc.8	Ja.7	
						29	30	29	29	30	29	30	30	29	30	30	29	354
1742		59	7	13	Sin Yeo 58	Fbr.5	Mr.7	Ap.5	May 5	Jun.3	Jul.2	Ag.1	Ag.30	Sp.29	Oct.28	Nv.27	Dc.27	
						30	29	30	29	29	30	29	30	29	30	30	30	355
1743		60	8	14	Ping Ch'în 53	Ja.26	Fbr.24	Mr.26	Ap.24 May24	Jun.22	Jul.21	Ag.19	Sp.18	Oct.17	Nv.16	Dc.16	Ja.15	
						29	30	29	30 29	29	29	30	29	30	30	30	29	383
1744	74	1	9	15	Ki Mao 16	Fbr.13	Mr.14	Ap.13	May12	Jun.11	Jul.10	Ag.8	Sp.6	Oct.6	Nv.4	Dc.4	Ja.3	
						30	30	29	30	29	29	29	30	29	30	30	29	354
1745		2	10	16	Kwei Yeo 10	Fbr.1	Mr.3	Ap.2	May 2	May31	Jun.30	Jul.29	Ag.27	Sp.26	Oct.25	Nv.23	Dc.23	
						30	30	30	29	30	29	29	30	29	29	30	30	355
1746		3	11	17	Wu Ch'ên 5	Ja.22	Fbr.20	Mr.22 Ap.21	May20	Jun.19	Jul.18	Ag.17	Sp.15	Oct.15	Nv.13	Dc.12	Ja.11	
						29	30	30 29	30	29	30	29	30	29	29	30	29	383
1747		4	12	18	Sin Mao 28	Fbr.9	Mr.11	Ap.10	May 9	Jun.8	Jul.8	Ag.6	Sp.5	Oct.4	Nv.3	Dc.2	Ja.1	
						30	30	29	30	30	29	30	29	30	29	30	29	355

T	c	y	E	z	B	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	J
1748	74	5	Tien-lung 13	19	Ping Sü 23	Ja.30	Fbr.28	Mr.29	Ap.27	May 27	Jun.26	Jul.25 Ag.24	Sp.23	Oct.22	Nv.21	Dc.20	Ja.19	
						29	30	29	30	30	29	30 30	29	30	29	30	29	384
1749		6	14	1	Këng Sü 47	Fbr.17	Mr.18	Ap.17	May 16	Jun.15	Jul.14	Ag.13	Sp.12	Oct.11	Nv.10	Dc.10	Ja.8	
						29	30	29	30	29	30	30	29	30	30	29	30	355
1750		7	15	2	Yih Sze 42	Fbr.7	Mr.8	Ap.7	May 6	Jun.4	Jul.4	Ag.2	Sp.1	Sp.30	Oct.30	Nv.29	Dc.29	
						29	30	29	29	30	29	30	29	30	30	30	29	354
1751		8	16	3	Ki Hai 36	Ja.27	Fbr.26	Mr.27	Ap.26	May 25 Jun.23	Jul.23	Ag.21	Sp.19	Oct.19	Nv.18	Dc.18	Ja.16	
						30	29	30	29	29 30	29	29	30	30	30	29	30	384
1752		9	17	4	Kwei Hai 60	Fbr.15	Mr.16	Ap.14	May 14	Jun.12	Jul.11	Ag.9	Sp.8	Oct.7	Nv.6	Dc.6	Ja.4	
						30	29	30	29	29	29	30	29	30	30	29	30	354
1753		10	18	5	Ting Sze 54	Fbr.3	Mr.5	Ap.4	May 3	Jun.2	Jul.1	Jul.30	Ag.28	Sp.27	Oct.26	Nv.25	Dc.24	
						30	30	29	30	29	29	29	30	29	30	29	30	354
1754		11	19	6	Sin Hai 48	Ja.23	Fbr.22	Mr.24	Ap.22 May 22	Jun.20	Jul.20	Ag.18	Sp.17	Oct.16	Nv.14	Dc.14	Ja.12	
						30	30	29	30 29	30	29	30	29	29	30	29	30	384
1755		12	20	7	Yih Hai 12	Fbr.11	Mr.13	Ap.11	May 11	Jun.10	Jul.9	Ag.8	Sp.6	Oct.6	Nv.4	Dc.3	Ja.2	
						30	29	30	30	29	30	29	30	29	29	30	29	354
1756		13	21	8	Ki Sze 6	Ja.31	Mr.1	Mr.31	Ap.29	May 29	Jun.27	Jul.27	Ag.26	Sp.24 Oct.24	Nv.22	Dc.21	Ja.20	
						30	30	29	30	29	30	30	29	30 29	29	30	29	384
1757		14	22	9	Kwei Sze 30	Fbr.18	Mr.20	Ap.18	May 18	Jun.16	Jul.16	Ag.15	Sp.13	Oct.13	Nv.12	Dc.11	Ja.10	
						30	29	30	29	30	30	29	30	30	29	30	29	355
1758		15	23	10	Wu Tsze 25	Fbr.8	Mr.9	Ap.8	May 7	Jun.6	Jul.5	Ag.4	Sp.2	Oct.2	Nv.1	Dc.1	Dc.30	
						29	30	29	30	29	30	29	30	30	30	29	30	355
1759		16	24	11	Kwei Wei 20	Ja.29	Fbr.27	Mr.28	Ap.27	May 26	Jun.25 Jul.24	Ag.23	Sp.21	Oct.21	Nv.20	Dc.19	Ja.18	
						29	29	30	29	30	29 30	29	30	30	29	30	30	384
1760		17	25	12	Ting Wei 44	Fbr.17	Mr.17	Ap.16	May 15	Jun.13	Jul.12	Ag.11	Sp.9	Oct.9	Nv.8	Dc.7	Ja.6	
						29	30	29	29	29	30	29	30	30	29	30	30	354
1761		18	26	13	Sin Chow 38	Fbr.5	Mr.7	Ap.5	May 5	Jun.3	Jul.2	Jul.31	Ag.30	Sp.28	Oct.28	Nv.26	Dc.26	
						30	29	30	29	29	29	30	29	30	29	30	30	354

T	C	Y	E	Z	B	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	J
1762	74	19	Kien-Lung 27	14	Yih Wei 32	Ja.25	Fbr.24	Mr.25	Ap.24	May24 Jun.22	Jul.21	Ag.19	Sp.18	Oct.17	No.16	Dc.15	Ja.14	
						30	29	30	30	29 29	29	30	29	30	29	30	30	384
1763		20	28	15	Ki Wei 56	Fbr.13	Mr.15	Ap.13	May 13	Jun.11	Jul.11	Ag.9	Sp.7	Oct.7	No.5	Dc.5	Ja.3	
						30	29	30	29	30	29	29	30	29	30	29	30	354
1764		21	29	16	Kwei Chow 50	Fbr.2	Mr.3	Ap.1	May 1	May 31	Jun.29	Jul.29	Ag.27	Sp.26	Oct.25	No.23	Dc.23	
						30	29	30	30	29	30	29	30	29	29	30	29	354
1765		22	30	17	Ting Wei 44	Ja.21	Fbr.20 Mr.21	Ap.20	May 20	Jun.18	Jul.18	Ag.16	Sp.15	Oct.15	No.13	Dc.12	Ja.11	
						30	29 30	30	29	30	29	30	30	29	29	30	29	384
1766		23	31	18	Sin Wei 8	Fbr.9	Mr.11	Ap.9	May 9	Jun.7	Jul.7	Ag.6	Sp.4	Oct.4	No.2	Dc.2	Ja.1	
						30	29	30	29	30	30	29	30	29	30	30	29	355
1767		24	32	19	Ping yin 3	Ja.30	Fbr.28	Mr.30	Ap.28	May 28	Jun.26	Jul.26 Ag.24	Sp.23	Oct.23	No.21	Dc.21	Ja.20	
						29	30	29	30	29	30	29 30	30	29	30	30	29	384
1768		25	33	1	Kĕng yin 27	Fbr.18	Mr.18	Ap.17	May 16	Jun.15	Jul.14	Ag.12	Sp.11	Oct.11	No.9	Dc.9	Ja.8	
						29	30	29	30	29	29	30	30	29	30	30	30	355
1769		26	34	2	Yih Yoo 22	Fbr.7	Mr.8	Ap.7	May 6	Jun.4	Jul.3	Ag.2	Ag.31	Sp.30	Oct.29	No.28	Dc.28	
						29	30	29	29	29	30	29	30	29	30	30	30	354
1770		27	35	3	Ki Mao 16	Ja.27	Fbr.25	Mr.27	Ap.26	May25 Jun.23	Jul.22	Ag.21	Sp.19	Oct.19	No.17	Dc.17	Ja.16	
						29	30	30	29	29 29	30	29	30	29	30	30	30	384
1771		28	36	4	Kwei Muo 40	Fbr.15	Mr.16	Ap.15	May 14	Jun.13	Jul.12	Ag.10	Sp.9	Oct.8	No.7	Dc.6	Ja.5	
						29	30	29	30	29	29	30	29	30	29	30	30	354
1772		29	37	5	Ting yoo 34	Fbr.4	Mr.4	Ap.3	May 3	Jun.1	Jul.1	Jul.30	Ag.28	Sp.27	Oct.26	No.25	Dc.24	
						29	30	30	29	30	29	29	30	29	30	29	30	354
1773		30	38	6	Sin Muo 28	Ja.23	Fbr.21	Mr.23 Ap.22	May 21	Jun.20	Jul.20	Ag.18	Sp.16	Oct.16	No.14	Dc.14	Ja.12	
						29	30	30 29	30	30	29	29	30	29	30	29	30	384
1774		31	39	7	Yih Muo 52	Fbr.11	Mr.12	Ap.11	May 10	Jun.9	Jul.9	Ag.7	Sp.6	Oct.5	No.4	Dc.3	Ja.2	
						29	30	29	30	30	29	30	29	30	29	30	29	354
1775		32	40	8	Ki yeo 46	Ja.31	Mr.2	Mr.31	Ap.30	May 29	Jun.28	Jul.27	Ag.26	Sp.25	Oct.24 No.23	Dc.22	Ja.21	
						30	29	30	29	30	29	30	30	29	30 29	30	29	384

T	c	y	E	z	B	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	J
1776	74	33	Tsien-lung 41	9	Kwei Yao 10	Fbr.19	Mr 20	Ap.18	May 18	Jun.16	Jul.15	Ag.14	Sp.13	Oct.12	No.11	Dc.11	Ja.9	
						30	29	30	29	29	30	30	29	30	30	29	30	355
1777		34	42	10	Wu Chên 5	Fbr.8	Mr.9	Ap.8	May 7	Jun.5	Jul.5	Ag.3	Sp.2	Oct.1	Oct.31	No.30	Dc.30	
						29	30	29	29	30	29	30	29	30	30	30	29	354
1778		35	43	11	Jên Sü 59	Ja.28	Fbr.27	Mr.28	Ap.27	May 26	Jun.24 Jul.24	Ag.22	Sp.21	Oct.20	No.19	Dc.19	Ja.18	
						30	29	30	29	29	30 29	30	29	30	30	30	29	384
1779		36	44	12	Ping Sü 23	Fbr.16	Mr.18	Ap.16	May 16	Jun.14	Jul.13	Ag.12	Sp.10	Oct.10	No.8	Dc.8	Ja.7	
						30	29	30	29	29	30	29	30	29	30	30	29	354
1780		37	45	13	Kêng Chên 17	Fbr.5	Mr.6	Ap.5	May 4	Jun.3	Jul.2	Jul.31	Ag.30	Sp.28	Oct.28	No.26	Dc.26	
						30	30	29	30	29	29	30	29	30	29	30	29	354
1781		38	46	14	Kiah Sü 11	Ja.24	Fbr.23	Mr.25	Ap.24	May 23 Jun.22	Jul.21	Ag.19	Sp.18	Oct.17	No.16	Dc.15	Ja.14	
						30	30	30	29	30 29	29	30	29	30	29	30	29	384
1782		39	47	15	Wu Sü 35	Fbr.12	Mr.14	Ap.13	May 12	Jun.11	Jul.10	Ag.9	Sp.7	Oct.7	No.5	Dc.5	Ja.3	
						30	30	29	30	29	30	29	30	29	30	29	30	355
1783		40	48	16	Kwei Sze 30	Fbr.2	Mr.3	Ap.2	May 1	May 31	Jun.30	Jul.29	Ag.28	Sp.26	Oct.26	No.24	Dc.24	
						29	30	29	30	30	29	30	29	30	29	30	29	354
1784		41	49	17	Ting Hai 24	Ja.22	Fbr.21	Mr.21 Ap.20	May 19	Jun.18	Jul.17	Ag.16	Sp.15	Oct.14	No.13	Dc.12	Ja.11	
						30	29	30 29	30	29	30	30	29	30	29	30	29	384
1785		42	50	18	Sin Hai 48	Fbr.9	Mr.11	Ap.9	May 9	Jun.7	Jul.6	Ag.5	Sp.4	Oct.3	No.2	Dc.2	Dc.31	
						30	29	30	29	29	30	30	29	30	30	29	30	355
1786		43	51	19	Ping Wu 43	Ja.30	Fbr.28	Mr.30	Ap.28	May 27	Jun.26	Jul.25 Ag.24	Sp.22	Oct.22	No.21	Dc.21	Ja.19	
						29	30	29	29	30	29	30 29	30	30	30	29	30	384
1787		44	52	1	Kêng Wu 7	Fbr.18	Mr.19	Ap.18	May 17	Jun.15	Jul.15	Ag.13	Sp.12	Oct.11	No.10	Dc.9	Ja.8	
						29	30	29	29	30	29	30	29	30	29	30	30	354
1788		45	53	2	Kiah Tsze 1	Fbr.7	Mr.8	Ap.6	May 6	Jun.4	Jul.4	Ag.2	Ag.31	Sp.29	Oct.29	No.28	Dc.27	
						30	29	30	29	30	29	29	29	30	30	29	30	354
1789		46	54	3	Wu Wu 55	Ja.26	Fbr.25	Mr.27	Ap.25	May 25 Jun.23	Jul.22	Ag.21	Sp.19	Oct.19	No.17	Dc.17	Ja.15	
						30	30	29	30	29 29	30	29	30	29	30	29	30	384

T	c	y	E	Z	B	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	J
1790	74	47	Tsien-lung 55	4	Jĕn Wu 19	Fbr.14	Mr.16	Ap.14	May 14	Jun.13	Jul.12	Ag.10	Sp.9	Oct.8	Nv.7	Dc.6	Ja.5	
						30	29	30	30	29	29	30	29	30	29	30	29	354
1791		48	56	5	Ping Tsze 13	Fbr.3	Mr.5	Ap.3	May 3	Jun.2	Jul.1	Jul.31	Ag.29	Sp.28	Oct.27	Nv.26	Dc.25	
						30	29	30	30	29	30	29	30	29	30	29	30	355
1792		49	57	6	Sin Wei 8	Ja.24	Fbr.22	Mr.23	Ap.21 May 21	Jun.19	Jul.19	Ag.18	Sp.16	Oct.16	Nv.14	Dc.14	Ja.12	
						29	30	29	30 29	30	30	29	30	29	30	29	30	384
1793		50	58	7	Yih Wei 32	Fbr.11	Mr.12	Ap.11	May 10	Jun.8	Jul.8	Ag.7	Sp.5	Oct.5	Nv.4	Dc.3	Ja.2	
						29	30	29	29	30	30	29	30	30	29	30	29	354
1794		51	59	8	Ki Ch'ow 26	Ja.31	Mr.2	Mr.31	Ap.29	May 29	Jun.27	Jul.27	Ag.25	Sp.24	Oct.24	Nv.23	Dc.22	
						30	29	29	30	29	30	29	30	30	30	29	30	355
1795		52	60	9	Kiah Shĕn 21	Ja.21	Fbr.19 Mr.21	Ap.19	May 18	Jun.17	Jul.16	Ag.15	Sp.13	Oct.13	Nv.11	Dc.11	Ja.10	
						29	30 29	29	30	29	30	29	30	29	30	30	30	384
1796		53	Kia-tsing 1	10	Wu Shĕn 45	Fbr.9	Mr.9	Ap.8	May 7	Jun.6	Jul.5	Ag.3	Sp.1	Oct.1	Oct.31	Nv.29	Dc.29	
						29	30	29	30	29	29	29	30	30	29	30	30	354
1797		54	2	11	Jĕn yin 39	Ja.28	Fbr.27	Mr.28	Ap.27	May 26	Jun.25 Jul.24	Ag.22	Sp.20	Oct.20	Nv.18	Dc.18	Ja.17	
						30	29	30	29	30	29 29	29	30	29	30	30	30	384
1798		55	3	12	Ping yin 3	Fbr.16	Mr.17	Ap.16	May 16	Jun.14	Jul.13	Ag.12	Sp.10	Oct.9	Nv.8	Dc.7	Ja.6	
						29	30	30	29	29	30	29	29	30	29	30	30	354
1799		56	4	13	Kĕng Shĕn 57	Fbr.5	Mr.6	Ap.5	May 5	Jun.3	Jul.3	Ag.1	Ag.31	Sp.29	Oct.29	Nv.27	Dc.26	
						29	30	30	29	30	29	30	29	30	29	29	30	354
1800		57	5	14	Kiah yin 51	Ja.25	Fbr.24	Mr.25	Ap.24 May 24	Jun.22	Jul.22	Ag.20	Sp.19	Oct.18	Nv.17	Dc.16	Ja.15	
						30	29	30	30 29	30	29	30	29	30	29	30	29	384
1801		58	6	15	Wu yin 15	Fbr.13	Mr.14	Ap.13	May 13	Jun.11	Jul.11	Ag.9	Sp.8	Oct.8	Nv.6	Dc.6	Ja.4	
						29	30	30	29	30	29	30	30	29	30	29	30	355
1802		59	7	16	Kwei yeo 10	Fbr.3	Mr.4	Ap.2	May 2	May 31	Jun.30	Jul.29	Ag.28	Sp.27	Oct.27	Nv.25	Dc.25	
						29	29	30	29	30	29	30	30	30	29	30	29	354
1803		60	8	17	Ting Mao 4	Ja.23	Fbr.22 Mr.23	Ap.21	May 21	Jun.19	Jul.19	Ag.17	Sp.16	Oct.16	Nv.14	Dc.14	Ja.13	
						30	29 29	30	29	30	29	30	30	29	30	30	29	384

T	C	y	E	Z	B	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	J
1804	75	1	Kia-tsing 9	18	Sin Mao 28	Fbr.11	Mr.12	Ap.10	May 9	Jun.8	Jul.7	Ag.5	Sp.4	Oct.4	Nv.2	Dc.2	Ja.1	
						30	29	29	30	29	29	30	30	29	30	30	30	355
1805		2	10	19	Ping Sü 23	Ja.31	Mr.1	Mr.31	Ap.29	May 29	Jun.27 Jul.26	Ag.24	Sp.23	Oct.22	Nv.21	Dc.21	Ja.20	
						29	30	29	30	29	29 29	30	29	30	30	30	29	383
1806		3	11	1	Ki Yeo 46	Fbr.18	Mr.20	Ap.19	May 18	Jun.17	Jul.16	Ag.14	Sp.12	Oct.12	Nv.10	Dc.10	Ja.9	
						30	30	29	30	29	29	29	30	29	30	30	29	354
1807		4	12	2	Kwei Mao 40	Fbr.7	Mr.9	Ap.8	May 8	Jun.6	Jul.5	Ag.4	Sp.2	Oct.1	Oct.31	Nv.29	Dc.29	
						30	30	30	29	29	30	29	29	30	29	30	30	355
1808		5	13	3	Wu Sü 35	Ja.28	Fbr.26	Mr.27	Ap.26	May 25 Jun.24	Jul.23	Ag.22	Sp.20	Oct.20	Nv.18	Dc.17	Ja.16	
						29	30	30	29	30 29	30	29	30	29	29	30	29	383
1809		6	14	4	Sin Yeo 58	Fbr.14	Mr.16	Ap.15	May 14	Jun.13	Jul.13	Ag.11	Sp.10	Oct.9	Nv.8	Dc.7	Ja.5	
						30	30	29	30	30	29	30	29	30	29	29	30	355
1810		7	15	5	Ping Ch'en 53	Fbr.4	Mr.5	Ap.4	May 3	Jun.2	Jul.2	Jul.31	Ag.30	Sp.29	Oct.28	Nv.27	Dc.26	
						29	30	29	30	30	29	30	30	29	30	29	30	355
1811		8	16	6	Sin Hai 48	Ja.25	Fbr.23	Mr.24 Ap.23	May 22	Jun.21	Jul.20	Ag.19	Sp.18	Oct.17	Nv.16	Dc.16	Ja.14	
						29	29	30 29	30	29	30	30	29	30	30	29	30	384
1812		9	17	7	Yih Hai 12	Fbr.13	Mr.13	Ap.11	May 11	Jun.9	Jul.9	Ag.7	Sp.6	Oct.5	Nv.4	Dc.4	Ja.3	
						29	29	30	29	30	29	30	29	30	30	30	29	354
1813		10	18	8	Ki Sze 6	Fbr.1	Mr.3	Ap.1	May 1	May 30	Jun.28	Jul.27	Ag.26	Sp.24	Oct.24	Nv.23	Dc.23	
						30	29	30	29	29	29	30	29	30	30	30	29	354
1814		11	19	9	Kwei Hai 60	Ja.21	Fbr.20 Mr.22	Ap.20	May 20	Jun.18	Jul.17	Ag.15	Sp.14	Oct.13	Nv.12	Dc.12	Ja.10	
						30	30 29	30	29	29	29	30	29	30	30	29	30	384
1815		12	20	10	Ting Hai 24	Fbr.9	Mr.11	Ap.10	May 9	Jun.7	Jul.7	Ag.5	Sp.3	Oct.3	Nv.1	Dc.1	Dc.30	
						30	30	29	29	30	29	29	30	29	30	29	30	354
1816		13	21	11	Sin Sze 18	Ja.29	Fbr.28	Mr.29	Ap.27	May 27	Jun.25 Jul.25	Ag.23	Sp.21	Oct.21	Nv.19	Dc.19	Ja.17	
						30	30	29	30	29	30 29	29	30	29	30	29	50	384
1817		14	22	12	Yih Sze 42	Fbr.16	Mr.18	Ap.16	May 16	Jun.15	Jul.14	Ag.13	Sp.11	Oct.11	Nv.9	Dc.8	Ja.7	
						30	29	30	30	29	30	29	30	29	29	30	29	354

T	C	Y	E	Z	B	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	J
1818	75	15	Kia-tsing 23	13	Ki Hai 36	Fbr. 5	Mr. 7	Ap. 5	May 5	Jun. 4	Jul. 3	Ag. 2	Sp. 1	Sp. 30	Oct. 30	Nv. 28	Dc. 27	
						30	29	30	30	29	30	30	29	30	29	29	30	355
1819		16	24	14	Kiah Wu 31	Ja. 26	Fbr. 24	Mr. 26	Ap. 24 May 24	Jun. 22	Jul. 22	Ag. 21	Sp. 19	Oct. 19	Nv. 18	Dc. 17	Ja. 16	
						29	30	29	30 29	30	30	29	30	30	29	30	29	384
1820		17	25	15	Wu Wu 55	Fbr. 14	Mr. 14	Ap. 13	May 12	Jun. 11	Jul. 10	Ag. 9	Sp. 7	Oct. 7	Nv. 6	Dc. 6	Ja. 4	
						29	30	29	30	29	30	29	30	30	30	29	30	355
1821		18	Tao-kuang 1	16	Kwei Chow 50	Fbr. 3	Mr. 4	Ap. 2	May 2	May 31	Jun. 29	Jul. 29	Ag. 27	Sp. 26	Oct. 26	Nv. 25	Dc. 24	
						29	29	30	29	29	30	29	30	30	30	29	30	354
1822		19	2	17	Ting Wei 44	Ja. 23	Fbr. 22	Mr. 23 Ap. 22	May 21	Jun. 19	Jul. 18	Ag. 17	Sp. 15	Oct. 16	Nv. 14	Dc. 13	Ja. 12	
						30	29	30 29	29	29	30	29	30	30	29	30	30	384
1823		20	3	18	Sin Wei 8	Fbr. 11	Mr. 13	Ap. 11	May 11	Jun. 9	Jul. 8	Ag. 6	Sp. 5	Oct. 4	Nv. 3	Dc. 2	Ja. 1	
						30	29	30	29	29	29	30	29	30	29	30	30	354
1824		21	4	19	Yih Chow 2	Ja. 31	Mr. 1	Mr. 30	Ap. 29	May 28	Jun. 27	Jul. 26 Ag. 24	Sp. 23	Oct. 22	Nv. 21	Dc. 20	Ja. 19	
						30	29	30	29	30	29	29 30	29	30	29	30	30	384
1825		22	5	1	Ki Chow 26	Fbr 18	Mr. 20	Ap. 18	May 18	Jun. 16	Jul. 16	Ag. 14	Sp. 12	Oct. 12	Nv. 10	Dc. 10	Ja. 8	
						30	29	30	29	30	29	29	30	29	30	29	30	354
1826		23	6	2	Kwei Wei 20	Fbr. 7	Mr. 9	Ap. 7	May 7	Jun. 6	Jul. 5	Ag. 4	Sp. 2	Oct. 1	Oct. 31	Nv. 29	Dc. 29	
						30	29	30	30	29	30	29	29	30	29	30	29	354
1827		24	7	3	Ting Chow 14	Ja. 27	Fbr. 26	Mr. 27	Ap. 26	May 26 Jun. 24	Jul. 24	Ag. 22	Sp. 21	Oct. 20	Nv. 19	Dc. 18	Ja. 17	
						30	29	30	30	29 30	29	30	29	30	29	30	29	384
1828		25	8	4	Sin Chow 38	Fbr. 15	Mr. 16	Ap. 14	May 14	Jun. 12	Jul. 12	Ag. 11	Sp. 9	Oct. 9	Nv. 7	Dc. 7	Ja. 5	
						30	29	30	29	30	30	29	30	29	30	29	30	355
1829		26	9	5	Ping Shên 33	Fbr. 4	Mr. 5	Ap. 4	May 3	Jun. 2	Jul. 1	Jul. 31	Ag. 29	Sp. 28	Oct. 28	Nv. 26	Dc. 26	
						29	30	29	30	29	30	29	30	30	29	30	30	355
1830		27	10	6	Sin Mao 28	Ja. 25	Fbr. 23	Mr. 24	Ap. 23 May 22	Jun. 20	Jul. 20	Ag. 18	Sp. 17	Oct. 17	Nv. 15	Dc. 15	Ja. 14	
						29	29	30	29 29	30	29	30	30	29	30	30	30	384
1831		28	11	7	Yih Mao 52	Fbr. 13	Mr. 14	Ap. 12	May 12	Jun. 10	Jul. 9	Ag. 8	Sp. 6	Oct. 6	Nv. 4	Dc. 4	Ja. 3	
						29	29	30	29	29	30	29	30	29	30	30	30	354

T	C	y	E	Z	B	I	II	III	–	–		VII	VIII	IX	X	XI	XII	J
1832	75	29	Tao-Kwang 12	8	Ki Yeo 46	Fbr.2	Mr.2	Ap.1	Ap.30	May 30	Jun.28	Jul.27	Ag.26	Sp.24 Oct.24	Nv.22	Dc.22	Ja.21	
						29	30	29	30	29	29	30	29	30 29	30	30	30	384
1833		30	13	9	Kwei Yeo 10	Fbr.20	Mr.21	Ap.20	May 19	Jun.18	Jul.17	Ag.15	Sp.14	Oct.13	Nv.12	Dc.11	Ja.10	
						29	30	29	30	29	29	30	29	30	29	30	30	354
1834		31	14	10	Ting Mao 4	Fbr.9	Mr.10	Ap.9	May 9	Jun.7	Jul.7	Ag.5	Sp.3	Oct.3	Nv.1	Dc.1	Dc.30	
						29	30	30	29	30	29	29	30	29	30	29	30	354
1835		32	15	11	Sin Yeo 58	Ja.29	Fbr.27	Mr.29	Ap.28	May 27	Jun.26 Jul.26	Ag.24	Sp.22	Oct.22	Nv.20	Dc.20	Ja.18	
						29	30	30	29	30	30 29	29	30	29	30	29	30	384
1836		33	16	12	Yih Yeo 22	Fbr.17	Mr.17	Ap.16	May 15	Jun.14	Jul.14	Ag.12	Sp.11	Oct.10	Nv.9	Dc.8	Ja.7	
						29	30	29	30	30	29	30	29	30	29	30	29	354
1837		34	17	13	Ki Mao 16	Fbr.5	Mr.7	Ap.5	May 5	Jun.3	Jul.3	Ag.1	Ag.31	Sp.30	Oct.29	Nv.28	Dc.27	
						30	29	30	29	30	29	30	30	29	30	29	30	355
1838		35	18	14	Kiah Sü 11	Ja.26	Fbr.24	Mr.26	Ap.24 May 24	Jun.22	Jul.21	Ag.20	Sp.19	Oct.18	Nv.17	Dc.17	Ja.15	
						29	30	29	30 29	29	30	30	29	30	30	29	30	384
1839		36	19	15	Wu Sü 35	Fbr.14	Mr.15	Ap.14	May 13	Jun.11	Jul.11	Ag.9	Sp.8	Oct.7	Nv.6	Dc.6	Ja.5	
						29	30	29	29	30	29	30	29	30	30	30	29	354
1840		37	20	16	Jên Ch'ên 29	Fbr.3	Mr.4	Ap.2	May 2	May 31	Jun.29	Jul.29	Ag.27	Sp.26	Oct.25	Nv.24	Dc.24	
						30	29	30	29	29	30	29	30	29	30	30	30	355
1841		38	21	17	Ting Hai 24	Ja.23	Fbr.21	Mr.23 Ap.21	May 21	Jun.19	Jul.18	Ag.17	Sp.15	Oct.15	Nv.13	Dc.13	Ja.12	
						29	30	29 30	29	29	30	29	30	29	30	30	29	383
1842		39	22	18	Kêng Sü 47	Fbr.10	Mr.12	Ap.11	May 10	Jun.9	Jul.8	Ag.6	Sp.5	Oct.4	Nv.3	Dc.2	Ja.1	
						30	30	29	30	29	29	30	29	30	29	30	29	354
1843		40	23	19	Kiah Ch'ên 41	Ja.30	Mr.1	Mr.31	Ap.30	May 29	Jun.28	Jul.27 Ag.25	Sp.24	Oct.23	Nv.22	Dc.21	Ja.20	
						30	30	30	29	30	29	29 30	29	30	29	30	29	384
1844		41	24	1	Wu Ch'ên 5	Fbr.18	Mr.19	Ap.18	May 17	Jun.16	Jul.15	Ag.14	Sp.12	Oct.12	Nv.10	Dc.10	Ja.8	
						30	30	29	30	29	30	29	30	29	30	29	30	355
1845		42	25	2	Kwei Hai 60	Fbr.7	Mr.8	Ap.7	May 6	Jun.5	Jul.5	Ag.3	Sp.2	Oct.1	Oct.31	Nv.29	Dc.29	
						29	30	29	30	30	29	30	29	30	29	30	29	354

T	C	Y	E	Z	B	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	J
1846	75	43	Tao-Kuang 26	3	Ting Sze 54	Ja. 27	Fbr. 26	Mr. 27	Ap. 26	May 25 Jun. 24	Jul. 23	Ag. 22	Sp. 20	Oct. 20	Nv. 19	Dc. 18	Ja. 17	
						30	29	30	29	30 29	30	29	30	30	29	30	29	384
1847		44	27	4	Sin Sze 18	Fbr. 15	Mr. 17	Ap. 15	May 14	Jun. 13	Jul. 12	Ag. 11	Sp. 9	Oct. 9	Nv. 8	Dc. 8	Ja. 6	
						30	29	29	30	29	30	29	30	30	30	29	30	355
1848		45	28	5	Ping Tsze 13	Fbr. 5	Mr. 5	Ap. 4	May 3	Jun. 1	Jul. 1	Jul. 30	Ag. 29	Sp. 27	Oct. 27	Nv. 26	Dc. 25	
						29	30	29	29	30	29	30	29	30	30	29	30	354
1849		46	29	6	Kêng Wu 7	Ja. 24	Fbr. 23	Mr. 24	Ap. 23 May 22	Jun. 20	Jul. 20	Ag. 18	Sp. 16	Oct. 16	Nv. 15	Dc. 14	Ja. 13	
						30	29	30	29 29	30	29	29	30	30	29	30	30	384
1850		47	30	7	Kiah Wu 31	Fbr 12	Mr. 14	Ap. 12	May 12	Jun. 10	Jul. 9	Ag. 8	Sp. 6	Oct. 5	Nv. 4	Dc. 4	Ja. 2	
						30	29	30	29	29	30	29	29	30	30	29	30	354
1851		48	Hien-fêng 1	8	Wu Tsze 25	Fbr. 1	Mr. 3	Ap. 2	May 1	May 31	Jun. 29	Jul. 28	Ag. 27 Sp. 25	Oct. 24	Nv. 23	Dc. 22	Ja. 21	
						30	30	29	30	29	29	30	29 29	30	29	30	30	384
1852		49	2	9	Jen Tsze 49	Fbr. 20	Mr. 21	Ap. 19	May 19	Jun. 18	Jul. 17	Ag. 15	Sp. 14	Oct. 13	Nv. 12	Dc. 11	Ja. 9	
						30	29	30	30	29	29	30	29	30	29	29	30	354
1853		50	3	10	Ping Wu 43	Fbr. 8	Mr. 10	Ap. 8	May 8	Jun. 7	Jul. 6	Ag. 5	Sp. 3	Oct. 3	Nv. 1	Dc. 1	Dc. 30	
						30	29	30	30	29	30	29	30	29	30	29	30	355
1854		51	4	11	Sin Chow 38	Ja. 29	Fbr. 27	Mr. 29	Ap. 27	May 27	Jun. 25	Jul. 25 Ag. 24	Sp. 22	Oct. 22	Nv. 20	Dc. 20	Ja. 18	
						29	30	29	30	29	30	30 29	30	29	30	29	30	384
1855		52	5	12	Yih Chow 2	Fbr. 17	Mr. 18	Ap. 16	May 16	Jun. 14	Jul. 14	Ag. 13	Sp. 11	Oct. 11	Nv. 10	Dc. 9	Ja. 8	
						29	29	30	29	30	30	29	30	30	29	30	29	354
1856		53	6	13	Ki Wei 56	Fbr. 6	Mr. 7	Ap. 5	May 4	Jun. 3	Jul. 2	Ag. 1	Ag. 30	Sp. 29	Oct. 29	Nv. 27	Dc. 27	
						30	29	29	30	29	30	29	30	30	29	30	30	355
1857		54	7	14	Kiah Yin 51	Ja. 26	Fbr. 24	Mr. 26	Ap. 24	May 23 Jun. 22	Jul. 21	Ag. 20	Sp. 18	Oct. 18	Nv. 16	Dc. 16	Ja. 15	
						29	30	29	29	30 29	30	29	30	29	30	30	30	384
1858		55	8	15	Wu Yin 15	Fbr. 14	Mr. 15	Ap. 14	May 13	Jun. 11	Jul. 11	Ag. 9	Sp. 7	Oct. 7	Nv. 6	Dc. 5	Ja. 4	
						29	30	29	29	30	29	29	30	30	29	30	30	354
1859		56	9	16	Jen Shên 9	Fbr. 3	Mr. 5	Ap. 3	May 3	Jun. 1	Jun. 30	Jul. 30	Ag. 28	Sp. 26	Oct. 26	Nv. 24	Dc. 24	
						30	29	30	29	29	30	29	29	30	29	30	30	354

T	C	Y	E	Z	B	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	J
1860	75	57	Hien-fêng 10	17	Ping Yin 3	Ja. 23	Fbr. 22	Mr. 22 Ap. 21	May 21	Jun. 19	Jul. 18	Ag. 17	Sp. 15	Oct. 14	Nv. 13	Dc. 12	Ja. 11	
						30	29	30 30	29	29	30	29	29	30	29	30	30	384
1861		58	11	18	Kêng Yin 27	Fbr. 10	Mr. 11	Ap. 10	May 10	Jun. 8	Jul. 8	Ag. 6	Sp. 5	Oct. 4	Nv. 3	Dc. 2	Dc. 31	
						29	30	30	29	30	29	30	29	30	29	29	30	354
1862		59	Tung-chih 1	19	Kiah Shên 21	Ja. 30	Mr. 1	Mr. 30	Ap. 29	May 28	Jun. 27	Jul. 27	Ag. 25 Sp. 24	Oct. 23	Nv. 22	Dc. 21	Ja. 19	
						30	29	30	29	30	30	29	30 29	30	29	29	30	384
1863		60	2	1	Wu Shên 45	Fbr. 18	Mr. 19	Ap. 18	May 18	Jun. 16	Jul. 16	Ag. 14	Sp. 13	Oct. 13	Nv. 11	Dc. 11	Ja. 9	
						29	30	30	29	30	29	30	30	29	30	29	30	355
1864	76	1	3	2	Kwei Mao 40	Fbr. 8	Mr. 8	Ap. 6	May 6	Jun. 4	Jul. 4	Ag. 2	Sp. 1	Oct. 1	Oct. 30	Nv. 29	Dc. 29	
						29	29	30	29	30	29	30	30	29	30	30	29	354
1865		2	4	3	Ting Yeo 34	Ja. 27	Fbr. 26	Mr. 27	Ap. 25	May 25 Jun. 23	Jul. 23	Ag. 21	Sp. 20	Oct. 20	Nv. 18	Dc. 18	Ja. 17	
						30	29	29	30	29 30	29	30	30	29	30	30	29	384
1866		3	5	4	Sin Yeo 58	Fbr. 15	Mr. 17	Ap. 15	May 14	Jun. 13	Jul. 12	Ag. 10	Sp. 9	Oct. 9	Nv. 7	Dc. 7	Ja. 6	
						30	29	29	30	29	29	30	30	29	30	30	30	355
1867		4	6	5	Ping Chên 53	Fbr. 5	Mr. 6	Ap. 5	May 4	Jun. 2	Jul. 2	Jul. 31	Ag. 29	Sp. 28	Oct. 27	Nv. 26	Dc. 26	
						29	30	29	29	30	29	29	30	29	30	30	30	354
1868		5	7	6	Kêng Sü 47	Ja. 25	Fbr. 23	Mr. 24	Ap. 23 May 22	Jun. 20	Jul. 20	Ag. 18	Sp. 16	Oct. 16	Nv. 14	Dc. 14	Ja. 13	
						29	30	30	29 29	30	29	29	30	29	30	30	29	383
1869		6	8	7	Kwei Yeo 10	Fbr. 11	Mr. 13	Ap. 12	May 11	Jun. 10	Jul. 9	Ag. 8	Sp. 6	Oct. 5	Nv. 4	Dc. 3	Ja. 2	
						30	30	29	30	29	30	29	29	30	29	30	29	354
1870		7	9	8	Ting Mao 4	Ja. 31	Mr. 2	Ap. 1	May 1	May 30	Jun. 29	Jul. 28	Ag. 27	Sp. 25	Oct. 24 Nv. 23	Dc. 22	Ja. 21	
						30	30	30	29	30	29	30	29	29	30 29	30	29	384
1871		8	10	9	Sin Mao 28	Fbr. 19	Mr. 21	Ap. 20	May 19	Jun. 18	Jul. 18	Ag. 16	Sp. 15	Oct. 14	Nv. 13	Dc. 12	Ja. 10	
						30	30	29	30	30	29	30	29	30	29	29	30	355
1872		9	11	10	Ping Sü 23	Fbr. 9	Mr. 9	Ap. 8	May 7	Jun. 6	Jul. 6	Ag. 4	Sp. 3	Oct. 2	Nv. 1	Dc. 1	Dc. 30	
						29	30	29	30	30	29	30	29	30	30	29	30	355
1873		10	12	11	Sin Sze 18	Ja. 29	Fbr. 27	Mr. 28	Ap. 27	May 26	Jun. 25 Jul. 24	Ag. 23	Sp. 22	Oct. 21	Nv. 20	Dc. 20	Ja. 18	
						29	29	30	29	30	29 30	30	29	30	30	29	30	384

T	c	y	E	Z	B	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	J
1874	76	11	Tung-chih 13	12	Yih Sze 42	Fbr. 17	Mr. 18	Ap. 16	May 16	Jun. 14	Jul. 14	Ag. 12	Sp. 11	Oct. 10	Nv. 9	Dc. 9	Ja. 8	
						29	29	30	29	30	29	30	29	30	30	30	29	354
1875		12	Kuang-hü 1	13	Ki Hai 36	Fbr. 6	Mr. 8	Ap. 6	May 5	Jun. 4	Jul. 3	Ag. 1	Ag. 31	Sp. 29	Oct. 29	Nv. 28	Dc. 28	
						30	29	29	30	29	29	30	29	30	30	30	29	354
1876		13	2	14	Kwei Sze 30	Ja. 26	Fbr. 25	Mr. 26	Ap. 24	May 23, Jun. 22	Jul. 21	Ag. 19	Sp. 18	Oct. 17	Nv. 16	Dc. 16	Ja. 14	
						30	30	29	29	30, 29	29	30	29	30	30	29	30	384
1877		14	3	15	Ting Sze 54	Fbr. 13	Mr. 15	Ap. 14	May 13	Jun. 11	Jul. 11	Ag. 9	Sp. 7	Oct. 7	Nv. 5	Dc. 5	Ja. 3	
						30	30	29	29	30	29	29	30	29	30	29	30	354
1878		15	4	16	Sin Hai 48	Fbr. 2	Mr. 4	Ap. 3	May 2	Jun. 1	Jun. 30	Jul. 30	Ag. 28	Sp. 26	Oct. 26	Nv. 24	Dc. 24	
						30	30	29	30	29	30	29	29	30	29	30	29	354
1879		16	5	17	Yih Sze 42	Ja. 22	Fbr. 21	Mr. 23, Ap. 21	May 21	Jun. 20	Jul. 19	Ag. 18	Sp. 16	Oct. 15	Nv. 14	Dc. 13	Ja. 12	
						30	30	29, 30	30	29	30	29	29	30	29	30	29	384
1880		17	6	18	Ki Sze 6	Fbr. 10	Mr. 11	Ap. 9	May 9	Jun. 8	Jul. 7	Ag. 6	Sp. 5	Oct. 4	Nv. 3	Dc. 2	Dc. 31	
						30	29	30	30	29	30	30	29	30	29	29	30	355
1881		18	7	19	Kiah Tsze 1	Ja. 30	Fbr. 28	Mr. 30	Ap. 28	May 28	Jun. 26	Jul. 26, Ag. 25	Sp. 23	Oct. 23	Nv. 22	Dc. 21	Ja. 20	
						29	30	29	30	29	30	30, 29	30	30	29	30	29	384
1882		19	8	1	Wu Tsze 25	Fbr. 18	Mr. 19	Ap. 18	May 17	Jun. 16	Jul. 15	Ag. 14	Sp. 12	Oct. 12	Nv. 11	Dc. 10	Ja. 9	
						29	30	29	30	29	30	29	30	30	29	30	30	355
1883		20	9	2	Kwei Wei 20	Fbr. 8	Mr. 9	Ap. 7	May 7	Jun. 5	Jul. 4	Ag. 3	Sp. 1	Oct. 1	Oct. 31	Nv. 30	Dc. 29	
						29	29	30	29	29	30	29	30	30	30	29	30	354
1884		21	10	3	Ting Ch'ow 14	Ja. 28	Fbr. 27	Mr. 27	Ap. 25	May 25, Jun. 23	Jul. 22	Ag. 21	Sp. 19	Oct. 19	Nv. 18	Dc. 17	Ja. 16	
						30	29	29	30	29, 29	30	29	30	30	29	30	30	384
1885		22	11	4	Sin Ch'ow 38	Fbr. 15	Mr. 17	Ap. 15	May 14	Jun. 13	Jul. 12	Ag. 10	Sp. 9	Oct. 8	Nv. 7	Dc. 6	Ja. 5	
						30	29	29	30	29	29	30	29	30	29	30	30	354
1886		23	12	5	Yih Wei 32	Fbr. 4	Mr. 6	Ap. 4	May 4	Jun. 2	Jul. 2	Jul. 31	Ag. 29	Sp. 28	Oct. 27	Nv. 26	Dc. 25	
						30	29	30	29	30	29	29	30	29	30	29	30	354
1887		24	13	6	Ki Ch'ow 26	Ja. 24	Fbr. 23	Mr. 24	Ap. 23, May 23	Jun. 21	Jul. 21	Ag. 19	Sp. 17	Oct. 17	Nv. 15	Dc. 15	Ja. 13	
						30	29	30	30, 29	30	29	29	30	29	30	29	30	384

T	C	Y	E	Z	B	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	J
1888	76	25	Kuang-hü 14	7	Kwei Ch'ow 50	Fbr.12	Mr.13	Ap.11	May 11	Jun.10	Jul.9	Ag.8	Sp.6	Oct.5	Nv.4	Dc.3	Ja.2	
						30	29	30	30	29	30	29	29	30	29	30	29	354
1889		26	15	8	Ting Wei 44	Ja.31	Mr.2	Mr.31	Ap.30	May 30	Jun.28	Jul.28	Ag.26	Sp.25	Oct.24	Nv.23	Dc.22	
						30	29	30	30	29	30	29	30	29	30	29	30	355
1890		27	16	9	Jen Yin 39	Ja.21	Fbr.19 Mr.21	Ap.19	May 19	Jun.17	Jul.17	Ag.15	Sp.14	Oct.14	Nv.12	Dc.12	Ja.10	
						29	30 29	30	29	30	29	30	30	29	30	29	30	384
1891		28	17	10	Ping Yin 3	Fbr.9	Mr.10	Ap.9	May 8	Jun.7	Jul.6	Ag.5	Sp.3	Oct.3	Nv.2	Dc.1	Dc.31	
						29	30	29	30	29	30	29	30	30	29	30	30	355
1892		29	18	11	Sin Yeo 58	Ja.30	Fbr.28	Mr.28	Ap.27	May 26	Jun.24 Jul.24	Ag.22	Sp.21	Oct.21	Nv.19	Dc.19	Ja.18	
						29	29	30	29	29	30 29	30	30	29	30	30	30	384
1893		30	19	12	Yih Yeo 22	Fbr.17	Mr.18	Ap.16	May 16	Jun.14	Jul.13	Ag.12	Sp.10	Oct.10	Nv.8	Dc.8	Ja.7	
						29	29	30	29	29	30	29	30	29	30	30	30	354
1894		31	20	13	Ki Mao 16	Fbr.6	Mr.7	Ap.6	May 5	Jun.4	Jul.3	Ag.1	Ag.31	Sp.29	Oct.29	Nv.27	Dc.27	
						29	30	29	30	29	29	30	29	30	29	30	30	354
1895		32	21	14	Kwei Yeo 10	Ja.26	Fbr.25	Mr.26	Ap.25	May 24 Jun.23	Jul.22	Ag.20	Sp.19	Oct.18	Nv.17	Dc.16	Ja.15	
						30	29	30	29	30 29	29	30	29	30	29	30	30	384
1896		33	22	15	Ting Yeo 34	Fbr.14	Mr.14	Ap.13	May 13	Jun.11	Jul.11	Ag.9	Sp.7	Oct.7	Nv.5	Dc.5	Ja.3	
						29	30	30	29	30	29	29	30	29	30	29	30	354
1897		34	23	16	Sin Mao 28	Fbr.2	Mr.3	Ap.2	May 2	May 31	Jun.30	Jul.29	Ag.28	Sp.26	Oct.26	Nv.24	Dc.24	
						29	30	30	29	30	29	30	29	30	29	30	29	354
1898		35	24	17	Yih Yeo 22	Ja.22	Fbr.21	Mr.22 Ap.21	May 20	Jun.19	Jul.19	Ag.17	Sp.16	Oct.15	Nv.14	Dc.13	Ja.12	
						30	29	30 29	30	30	29	30	29	30	29	30	29	384
1899		36	25	18	Ki Yeo 46	Fbr.10	Mr.12	Ap.10	May 10	Jun.8	Jul.8	Ag.6	Sp.5	Oct.5	Nv.3	Dc.3	Ja.1	
						30	29	30	29	30	29	30	30	29	30	29	30	355
1900		37	26	19	Kiah Ch'in 41	Ja.31	Mr.1	Mr.31	Ap.29	May 28	Jun.27	Jul.26	Ag.25 Sp.24	Oct.23	Nv.22	Dc.22	Ja.20	
						29	30	29	29	30	29	30	30 29	30	30	29	30	384
1901		38	27	1	Wu Ch'in 5	Fbr.19	Mr.20	Ap.19	May 18	Jun.16	Jul.16	Ag.14	Sp.13	Oct.12	Nv.11	Dc.11	Ja.10	
						29	30	29	29	30	29	30	29	30	30	30	29	354

T	c	Y	E	Z	B	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	J
1902	76	39	Kuang-hü 28	2	Jen Sü 59	Fbr. 8	Mr. 10	Ap. 8	May 8	Jun. 6	Jul. 5	Ag. 4	Sp. 2	Oct. 2	Oct. 31	Nv. 30	Dc. 30	
						30	29	30	29	29	30	29	30	29	30	30	30	355
1903		40	29	3	Ting Sze 54	Ja. 29	Fbr. 27	Mr. 29	Ap. 27	May 27 Jun. 25	Jul. 24	Ag. 23	Sp. 21	Oct. 20	Nv. 19	Dc. 19	Ja. 17	
						29	30	29	30	29 29	30	29	29	30	30	29	30	383
1904		41	30	4	Kêng Ch'ên 17	Fbr. 16	Mr. 17	Ap. 16	May 15	Jun. 14	Jul. 13	Ag. 11	Sp. 10	Oct. 9	Nv. 7	Dc. 7	Ja. 6	
						30	30	29	30	29	29	30	29	29	30	30	29	354
1905		42	31	5	Kiah Sü 11	Fbr. 4	Mr. 6	Ap. 5	May 4	Jun. 3	Jul. 3	Ag. 1	Ag. 30	Sp. 29	Oct. 28	Nv. 27	Dc. 26	
						30	30	29	30	30	29	29	30	29	30	29	30	355
1906		43	32	6	Ki Sze 6	Ja. 25	Fbr. 23	Mr. 25	Ap. 24 May 23	Jun. 22	Jul. 21	Ag. 20	Sp. 18	Oct. 18	Nv. 16	Dc. 16	Ja. 14	
						29	30	30	29 30	29	30	29	30	29	30	29	30	384
1907		44	33	7	Kwei Sze 30	Fbr. 13	Mr. 14	Ap. 13	May 12	Jun. 11	Jul. 10	Ag. 9	Sp. 8	Oct. 7	Nv. 6	Dc. 5	Ja. 4	
						29	30	29	30	29	30	30	29	30	29	30	29	354
1908		45	34	8	Ting Hai 24	Fbr. 2	Mr. 3	Ap. 1	Ap. 30	May 30	Jun. 29	Jul. 28	Ag. 27	Sp. 25	Oct. 25	Nv. 24	Dc. 23	
						30	29	29	30	30	29	30	29	30	30	29	30	355
1909		46	35	9	Jên Wu 19	Ja. 22	Fbr. 20 Mr. 22	Ap. 20	May 19	Jun. 18	Jul. 17	Ag. 16	Sp. 14	Oct. 14	Nv. 13	Dc. 13	Ja. 11	
						29	30 29	29	30	29	30	29	30	30	30	29	30	384
1910		47	36	10	Ping Wu 43	Fbr. 10	Mr. 11	Ap. 10	May 9	Jun. 7	Jul. 7	Ag. 5	Sp. 4	Oct. 3	Nv. 2	Dc. 2	Ja. 1	
						29	30	29	29	30	29	30	29	30	30	30	29	354
1911		48	37	11	Kêng Tsze 37	Ja. 30	Mr. 1	Mr. 30	Ap. 29	May 28	Jun. 26 Jul. 26	Ag. 24	Sp. 22	Oct. 22	Nv. 21	Dc. 20	Ja. 19	
						30	29	30	29	29	30 29	29	30	30	29	30	30	384
1912		49	38	12	Kiah Tsze 1	Fbr. 18	Mr. 19	Ap. 17	May 17	Jun. 15	Jul. 14	Ag. 13	Sp. 11	Oct. 10	Nv. 9	Dc. 9	Ja. 7	
						30	29	30	29	29	30	29	29	30	30	29	30	354
1913		50	39	13	Wu Wu 55	Fbr. 6	Mr. 8	Ap. 7	May 6	Jun. 5	Jul. 4	Ag. 2	Sp. 1	Sp. 30	Oct. 29	Nv. 28	Dc. 27	
						30	30	29	30	29	29	30	29	29	30	29	30	354
1914		51	40	14	Jên Tsze 49	Ja. 26	Fbr. 25	Mr. 27	Ap. 25	May 25 Jun. 23	Jul. 23	Ag. 21	Sp. 20	Oct. 19	Nv. 17	Dc. 17	Ja. 15	
						30	30	29	30	29 30	29	30	29	29	30	29	30	384
1915		52	41	15	Ping Tsze 13	Fbr. 14	Mr. 16	Ap. 14	May 14	Jun. 13	Jul. 12	Ag. 11	Sp. 9	Oct. 9	Nv. 7	Dc. 7	Ja. 5	
						30	29	30	30	29	30	29	30	29	30	29	30	355

T	c	y	E	z	B	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	J
1916	76	53	Kuang-hsü 42	16	Sin Wei 8	Fbr. 4	Mr. 4	Ap. 3	May 2	Jun. 1	Jun. 30	Jul. 30	Ag. 29	Sp. 27	Oct. 27	Nv. 25	Dc. 25	
						29	30	29	30	29	30	30	29	30	29	30	29	354
1917		54	43	17	Yih Chow 2	Ja. 23	Fbr. 22 Mr. 23	Ap. 21	May 21	Jun. 19	Jul. 19	Ag. 18	Sp. 16	Oct. 16	Nv. 15	Dc. 14	Ja. 13	
						30	29 29	30	29	30	30	29	30	30	29	30	29	384
1918		55	44	18	Ki Chow 26	Fbr. 11	Mr. 13	Ap. 11	May 10	Jun. 9	Jul. 8	Ag. 7	Sp. 5	Oct. 5	Nv. 4	Dc. 3	Ja. 2	
						30	29	29	30	29	30	29	30	30	29	30	30	355
1919		56	45	19	Kiah Shên 21	Fbr. 1	Mr. 2	Ap. 1	Ap. 30	May 29	Jun. 28	Jul. 27 Ag. 25	Sp. 24	Oct. 24	Nv. 22	Dc. 22	Ja. 21	
						29	30	29	29	30	29	29 30	30	29	30	30	30	384
1920		57	46	1	Wu Shên 45	Fbr. 20	Mr. 20	Ap. 19	May 18	Jun. 16	Jul. 16	Ag. 14	Sp. 12	Oct. 12	Nv. 10	Dc. 10	Ja. 9	
						29	30	29	29	30	29	29	30	29	30	30	30	354
1921		58	47	2	Jên Yin 39	Fbr. 8	Mr. 10	Ap. 8	May 8	Jun. 6	Jul. 5	Ag. 4	Sp. 2	Oct. 1	Oct. 31	Nv. 29	Dc. 29	
						30	29	30	29	29	30	29	29	30	29	30	30	354

In this Calendar, pages 53 - 74, the greatest deal of dates are expressed by two different ways, which afford a mean to control them, if any of them would be not clearly lithographed. Thus in column B are shown the New-year's days by the names and also by the numbers (the places) of these days in the cycle Kiah Tsze of 60 days, which can be verified by the help of our Table (3) page 3-4. Further in the columns I, II, III ... XII is noted the duration of every month and is marked the Gregorian date of the first day of every month; and as the durations of the months are well lithographed and it can be only twenty nine or thirty days, it does not present any difficulty, to decipher the bad lithographed passages. Finally, the control of the columns T, c, y and z can be easily effected taking into consideration, that two successive numbers of each column are differing from each other always by one unity and that y increases from 1 to 60 and z from 1 to 19.

18. Chronological Table of the Chinese Dynasties and Emperors and the year of the commencement of their reigns.

[T denotes the year of the Christian era, c the Chinese sexagesimal cycle, y the year in this cycle corresponding to the emperor's first year].

The Legendary Period.

Dynastic Title		Personal Name	T B.C.	c	y
太昊	T'ai-hao	伏羲氏 Fu-hi-shih 庖羲 or Pao-hi- "	2852		
炎帝	Yen-ti	神農 Shên-nung- " 烈山 or Lieh-shan- "	2737		
黃帝	Hoang-ti	有熊 Yu-nai- " 軒轅 or Hien-yüan- "	2697		
少昊	Shao-hao	金天 Kien-t'ien- "	2597	1	41
顓頊	Chuan-hü	高陽 Kao-yang- "	2513	3	5
帝嚳	Ti-Ku	高辛 Kao-sin - "	2435	4	23
帝摯	Ti-chih		2366	5	32
唐帝堯	T'ang-ti-yao	陶唐 T'ao-t'ang- "	2357	5	41
虞帝舜	Yü-ti-shun	有虞 Yu-yü- "	2255	7	23

夏紀 The Hia Dynasty

Dynastic Title		T B.C.	c	y	Dynastic Title		T B.C.	c	y
大禹	The Great Yü	2205	8	13	后杼	Hou-ch'u	2057	10	41
后啟	Hou-ts'i	2197	8	21	后槐	Hou-huai	2040	10	58
太康	T'ai-K'ang	2188	8	30	后芒	Hou-mang	2014	11	24
仲康	Chung-k'ang	2159	8	59	后泄	Hou-i	1996	11	42
后相	Hou-siang	2146	9	12	不降	Pu-kiung	1980	11	58
	Commencement of interregnum of fourty years by				后扃	Hou-Kiung	1921	12	57
					后廑	Hou-kin	1900	13	18
		2118	9	40	孔甲	K'ung-kia	1879	13	39
后羿	Hou-i and				后皐	Hou-kao	1848	14	10
寒浞	Han-cho				后發	Hou-fa	1837	14	21
少康	Shao-k'ang	2079	10	19	桀癸	Kieh-kuei	1818	14	40

商紀即殷紀 The Shang (also called the Yin) Dynasty

Dynastic Title		B.C.	C	Y	Dynastic Title		B.C.	C	Y
成湯	Ch'êng-tang	1766	15	32	南庚	Nan-kêng	1433	21	5
太甲	T'ai-kia	1753	15	45	陽甲	Yang-kia	1408	21	30
沃丁	Wu-ting	1720	16	18	盤庚	P'an-kêng	1401	21	37
太庚	T'ai-kêng	1691	16	47	小辛	Siao-sin	1373	22	5
小甲	Siao-kia	1666	17	12	小乙	Siao-yi	1352	22	26
雍己	Yung-ki	1649	17	29	武丁	Wu-ting	1324	22	54
太戊	T'ai-wu	1637	17	41	祖庚	Tsu-kêng	1265	23	53
仲丁	Chung-ting	1562	18	56	祖甲	Tsu-kia	1258	23	60
外壬	Wai-jên	1549	19	9	廩辛	Lin-sin	1225	24	33
河亶甲	Ho-tan-kia	1534	19	24	庚丁	Kêng-ting	1219	24	39
祖乙	Tsu-yi	1525	19	33	武乙	Wu-yi	1198	24	60
祖辛	Tsu-sin	1506	19	52	太丁	T'ai-ting	1194	25	4
沃甲	Wu-kia	1490	20	8	帝乙	Ti-yi	1191	25	7
祖丁	Tsu-ting	1465	20	33	紂辛	Chou-sin	1154	25	44

The Semi Historical and Historical Period

周紀 The Chou Dynasty

		B.C.	C	Y			B.C.	C	Y
武王	Wu-wang	1122	26	16	襄王	Siang-wang	651	34	7
成 丨	Ch'êng- "	1115	26	23	頃	K'ing- "	618	34	40
康 丨	K'ang- "	1078	26	60	匡	Kuang- "	612	34	46
昭 丨	Chao- "	1052	27	26	定	Ting- "	606	34	52
穆 丨	Mu- "	1001	28	17	簡	Kien- "	585	35	13
共 丨	Kung- "	946	29	12	靈	Ling- "	571	35	27
懿 丨	Yi- "	934	29	24	景	King- "	544	35	54
孝 丨	Hiao- "	909	29	49	敬	King- "	519	36	19
夷 丨	Yi- "	894	30	4	元	Yuan- "	475	37	3
厲 丨	Li- "	878	30	20	貞定	Chêng-ting- "	468	37	10
宣 丨	Süan- "	827	31	11	考	K'ao- "	440	37	38
	Hist. Period				威烈	Wei-lieh- "	425	37	53
幽 丨	Yu-wang	781	31	57	安	An- "	401	38	17
平 丨	Ping- "	770	32	8	烈	Lieh- "	375	38	43
桓 丨	Huan- "	719	32	59	顯	Hien- "	368	38	50
莊 丨	Chuang- "	696	33	22	愼靚	Shên-tsing- "	320	39	38
僖 丨	Hi- "	681	33	37	赧	Nan- "	314	39	44
惠 丨	Hoei- "	676	33	42	東周君	Tung-chou-kün	255	40	43

秦紀 The Ts'in Dynasty

Dynastic Title		T B.C.	c	y
昭襄王	Chao-siang-wang	255	40	43
孝文	Hiao-wên- 〃	250	40	48
莊襄	Chuang-siang- 〃	249	40	49
王政	Prince Chêng	246	40	52
秦始皇帝	Ts'in-shih-houng-ti	221	41	17
二世皇帝	Erh-shih-hoang-ti	209	41	29

前漢紀 The Former Han Dynasty

[In this and later dynasties, the emperors often changed the style during their reigns, until the usage was dropped by the Ming dynasty]

Dynastic Title or Miao-hao 廟號		Style of Reign or Nien-hao 年號		T B.C.	c	y
太祖高皇帝	T'ai Tsu or Kao-hoang-ti			206	41	32
孝惠帝	Hiao Hui-ti			194	41	44
高后 呂氏	Kao-hou Lü-shih			187	41	51
孝文帝	Hiao Wên-ti			179	41	59
		後元	Hou-yüan	163	42	15
〃 景帝	〃 King-ti			156	42	22
		中元	Chung-yüan	149	42	29
		後元	Hou-yüan	143	42	35
〃 武帝	〃 Wu-ti	建元	Kien-yüan	140	42	38
		元光	Yüan-kuang	134	42	44
		朔	〃 -shuo	128	42	50
		狩	〃 -shou	122	42	56
		鼎	〃 -ting	116	43	2
		封	〃 -fêng	110	43	8
		太初	T'ai-ch'u	104	43	14
		天漢	T'ien-han	100	43	18
		太始	T'ai-shih	96	43	22
		征和	Chêng-ho	92	43	26
		後元	Hou-yüan	88	43	30
〃 昭帝	〃 Chao-ti	始元	Shih-yüan	86	43	32
		元鳳	Yüan-fêng	80	43	38
		元平	Yüan-p'ing	74	43	44

Dynastic Title or Miao-hao 廟號		Style of Reign or Nien-hao 年號		B.C.	C	Y
孝宣帝	Hiao Süan-ti	本始	Pên-shih	73	43	45
		地節	Ti-tsieh	69	43	49
		元康	Yüan-kang	65	43	53
		神爵	Shên-tsio	61	43	57
		五鳳	Wu-fêng	57	44	1
		甘露	Kan-lu	53	44	5
		黃龍	Huang-lung	49	44	9
〃元帝	" Yüan-ti	初元	Ch'u-yüan	48	44	10
		永光	Yung-kuang	43	44	15
		建昭	Kien-chao	38	44	20
		竟寧	King-ning	33	44	25
〃成帝	" Ch'ing-ti	建始	Kien-shih	32	44	26
		河平	Ho-p'ing	28	44	30
孝成帝	Hiao Chêng-ti	陽朔	Yang-shuo	24	44	34
		鴻嘉	Hung-kia	20	44	38
		永始	Yung-shih	16	44	42
		元延	Yüan-yen	12	44	46
		綏和	Sui-ho	8	44	50
〃哀帝	" Ai-ti	建平	Kien-p'ing	6	44	52
		元壽	Yüan-shou	2	44	56
				A.D.		
〃平帝	" P'ing-ti	元始	Yüan-shih	1	44	58
孺子嬰	Ju-tz-ying	居攝	Kü-shê	6	45	3
		初始	Ch'u-shih	8	45	5
王莽	Wang-mang, the usurper	始建國	Shih-kien-kuo	9	45	6
		天鳳	T'ien-fêng	14	45	11
		地皇	Ti-hoang	20	45	17
淮陽王 帝玄	Hoai-yang-wang Ti-hüan }	更始	Kêng-shih	23	45	20

後漢紀 The Later Han Dynasty

Dynastic Title or Miao-hao 廟號		Style of Reign or Nien-hao 年號		A.D.	C	Y
光武帝	Kuang-wu-ti	建武	Kien-wu	25	45	22
		中元	Chung-yüan	56	45	53
孝明帝	Hiao Ming-ti	永平	Yung-p'ing	58	45	55
〃章帝	" Chang-ti	建初	Kien-ch'u	76	46	13
		元和	Yüan-ho	84	46	21
		章和	Chang-ho	87	46	24

Dynastic Title or Miao-hao 廟號		Style of Reign or Nien-hao 年號		T A.D.	C	Y
孝和帝	Hiao-Ho-ti	永元	Yung-yüan	89	46	26
		元興	Yüan-hing	105	46	42
|殤帝	" Shang-ti	延平	Yen-ping	106	46	43
|安帝	" An-ti	永初	Yung-ch'u	107	46	44
		元初	Yüan-ch'u	114	46	51
		永寧	Yung-ning	120	46	57
		建光	Kien-kuang	121	46	58
		延光	Yen-kuang	122	46	59
|順帝	" Shun-ti	永建	Yung-kien	126	47	3
		陽嘉	Yung-kia	132	47	9
		永和	Yung-ho	136	47	13
		漢安	Han-ngan	142	47	19
		建康	Kien-kang	144	47	21
|冲帝	" Ch'ung-ti	永嘉	Yung-kia	145	47	22
|質帝	" Chih-ti	本初	Pen-ch'u	146	47	23
|桓帝	" Huan-ti	建和	Kien-ho	147	47	24
		和平	Ho-p'ing	150	47	27
		元嘉	Yüan-kia	151	47	28
		永興	Yung-hing	153	47	30
		永壽	Yung-shou	155	47	32
		延熹	Yen-hi	158	47	35
		永康	Yung-kang	167	47	44
|靈帝	" Ling-ti	建寧	Kien-ning	168	47	45
		熹平	Hi-p'ing	172	47	49
		光和	Kuang-ho	178	47	55
		中平	Chung-p'ing	184	48	1
|獻帝	" Hien-ti	初平	Ch'u-p'ing	190	48	7
		興平	Hing-p'ing	194	48	11
		建安	Kien-an	196	48	13
		延康	Yen-k'ang	220	48	37

Epoch of the Three Kingdoms.

蜀漢紀 I The Minor Han Dynasty

昭烈帝	Chao-lieh-ti	章武	Chang-wu	221	48	38
後主	Hou-chu	建興	Kien-hing	223	48	40
		延熙	Yen-hi	238	48	55
		景耀	King-yao	258	49	15
		炎興	Yen-hing	263	49	20

Dynastic Title or Miao-hao 廟號		Style of Reign or Nien-hao 年號		T A.D.	C	Y

魏紀 II The Wei Dynasty

				A.D.	C	Y
文帝	Wên-ti	黃初	Hoang-ch'u	220	48	37
明帝	Ming-ti	太和	T'ai-ho	227	48	44
		青龍	Ts'ing-lung	233	48	50
		景初	King-ch'u	237	48	54
廢帝	Fei-ti	正始	Chêng-shih	240	48	57
		嘉平	Kia-p'ing	249	49	6
少帝	Shao-ti	正元	Chêng-yüan	254	49	11
		甘露	Kan-lu	256	49	13
元帝	Yüan-ti	景元	King-yüan	260	49	17
		咸熙	Hien-hi	264	49	21

吳紀 III The Wu Dynasty

大帝	Ta-ti	黃武	Hoang-wu	222	48	39
		黃龍	Hoang-lung	229	48	46
		嘉禾	Kia-ho	232	48	49
		赤烏	Ch'ih-wu	238	48	55
		太元	T'ai-yüan	251	49	8
		神鳳	Shên-fêng	252	49	9
廢帝	Fei-ti	建興	Kien-hing	252	49	9
		五鳳	Wu-fêng	254	49	11
		太平	T'ai-p'ing	256	49	13
景帝	King-ti	永安	Yung-an	258	49	15
末帝	Mo-ti	元興	Yüan-hing	264	49	21
		甘露	Kan-lu	265	49	22
		寶鼎	Pao-ting	266	49	23
		建衡	Kien-hêng	269	49	26
		鳳凰	Fêng-hoang	272	49	29
		天冊	T'ien-ts'êh	275	49	32
		天璽	T'ien-si	276	49	33
		天紀	T'ien-ki	277	49	34

西晉紀 The Western Tsin Dynasty.

武帝	Wu-ti	泰始	T'ai-shih	265	49	22
		咸寧	Hien-ning	275	49	32
		泰康	T'ai-k'ang	280	49	37
		泰熙	T'ai-hi	290	49	47

Dynastic Title or Miao-hao 廟號		Style of Reign or Nien-hao 年號		T A.D.	C	Y
惠帝	Hui-ti	永熙	Yung-hi	290	49	47
		永平	Yung-p'ing	291	49	48
		元康	Yüan-k'ang	291	49	48
		永康	Yung-k'ang	300	49	57
		永寧	Yung-ning	301	49	58
		太安	T'ai-an	302	49	59
		永興	Yung-hing	304	50	1
		光熙	Kuang-hi	306	50	3
懷帝	Huai-ti	永嘉	Yung-kia	307	50	4
愍帝	Min-ti	建興	Kien-hing	313	50	10

東晉紀 The Eastern Tsin Dynasty

元帝	Yüan-ti	建武	Kien-wu	317	50	14
		太興	T'ai-hing	318	50	15
		永昌	Yung-ch'ang	322	50	19
明帝	Ming-ti	太寧	T'ai-ning	323	50	20
成帝	Ch'êng-ti	咸和	Hien-ho	326	50	23
		咸康	Hien-k'ang	335	50	32
康帝	K'ang-ti	建元	Kien-yüan	343	50	40
穆帝	Mu-ti	永和	Yung-ho	345	50	42
		升平	Shêng-p'ing	357	50	54
哀帝	Ai-ti	隆和	Lung-ho	362	50	59
		興寧	Hing-ning	363	50	60
帝奕	Ti-yi	太和	T'ai-ho	366	51	3
簡文帝	Kien-wên-ti	咸安	Hien-ngan	371	51	8
孝武帝	Hiao-wu-ti	寧康	Ning-k'ang	373	51	10
		太元	T'ai-yüan	376	51	13
安帝	An-ti	隆安	Lung-an	397	51	34
		元興	Yüan-hing	402	51	39
		隆安	Lung-an	402	51	39
		大亨	Ta-hiang	402	51	39
		元興	Yüan-hing	403	51	40
		義熙	Yi-hi	405	51	42
恭帝	Kung-ti	元熙	Yüan-hi	419	51	56

Epoch of Division between North and South.

劉宋紀 The Liu Sung Dynasty

Dynastic Title or Miao-hao 廟號		Style of Reign or Nien-hao 年號		A.D.	C	Y
武帝	Wu-ti	永初	Yung-ch'u	420	51	57
營陽王	Ying-yang-wang	景平	King-p'ing	423	51	60
文帝	Wên-ti	元嘉	Yüan-kia	424	52	1
孝武帝	Hiao-wu-ti	孝建	Hiao-kien	454	52	31
		大明	Ta-ming	457	52	34
		永光	Yung-kuang	465	52	42
廢帝	Fei-ti	景和	King-ho	465	52	42
明帝	Ming-ti	泰始	T'ai-shih	465	52	42
		泰豫	T'ai-yü	472	52	49
主昱	Chu-yü	元徽	Yüan-huei	473	52	50
順帝	Shun-ti	昇明	Shêng-ming	477	52	54

齊紀 The Ts'i Dynasty

高帝	Kao-ti	建元	Kien-yüan	479	52	56
武帝	Wu-ti	永明	Yung-ming	483	52	60
鬱林王	Yü-lin-wang	隆昌	Lung-ch'ang	494	53	11
海陵王	Hai-ling-wang	延興	Yen-hing	494	53	11
明帝	Ming-ti	建武	Kien-wu	494	53	11
		永泰	Yung-t'ai	498	53	15
東昏侯	Tung-hun-hou	永元	Yung-yüan	499	53	16
和帝	Ho-ti	中興	Chung-hing	501	53	18

梁紀 The Liang Dynasty

武帝	Wu-ti	天監	T'ien-kien	502	53	19
		通	P'u-t'ung	520	53	37
		大通	Ta-t'ung	527	53	44
		中大通	Chung-ta-t'ung	529	53	46
		大同	Ta-t'ung	535	53	52
		中大同	Chung-ta-t'ung	546	54	3
		太清	T'ai-ts'ing	547	54	4
簡文帝	Kien-wên-ti	大寶	Ta-pao	550	54	7
豫章王	Yü-chang-wang	天正	T'ien-chêng	551	54	8
孝元帝	Hiao-yüan-ti	承聖	Ch'êng-shêng	552	54	9
貞陽侯	Chên-yang-hou	天成	T'ien-ch'êng	555	54	12
敬帝	King-ti	紹泰	Shao-t'ai	555	54	12
		太平	T'ai-p'ing	556	54	13

Dynastic Title or Miao-hao 廟號		Style of Reign or Nien-hao 年號		A.D.	C	Y
陳紀 The Ch'ên Dynasty						
武帝	Wu-ti	永定	Yung-ting	557	54	14
文帝	Wên-ti	天嘉	T'ien-kia	560	54	17
		天康	T'ien-k'ang	566	54	23
伯宗	Chu-po-tsung	光大	Kuang-ta	567	54	24
宣帝	Süan-ti	大建	Ta-kien	569	54	26
後主	Hou-chu	至德	Chih-tê	583	54	40
		禎明	Chên-ming	587	54	44
北魏紀 The Northern Wei Dynasty						
道武帝	Tao-wu-ti	登國	T'êng-kuo	386	51	23
		皇始	Hoang-shih	396	51	33
		天興	T'ien-hing	398	51	35
		天賜	T'ien-tz'e	404	51	41
明元帝	Ming-yüan-ti	永興	Yung-hing	409	51	46
		神瑞	Shên-jui	414	51	51
		泰常	T'ai-ch'ang	416	51	53
太武帝	T'ai-wu-ti	始光	Shih-kuang	424	52	1
		神䴥	Shên-kia	428	52	5
		延和	Yen-ho	432	52	9
		太延	T'ai-yen	435	52	12
		太平	T'ai-p'ing	440	52	17
		真君	Chên-kün	440	52	17
		正平	Chêng-p'ing	452	52	29
南安王	Nan-ngan-wang	承平	Ch'êng-p'ing	452	52	29
文成帝	Wên-ch'êng-ti	興安	Hing-an	452	52	29
		興光	Hing-kuang	454	52	31
		太安	T'ai-an	455	52	32
		和平	Ho-p'ing	460	52	37
獻文帝	Hien-wên-ti	天安	T'ien-an	466	52	43
		皇興	Hoang-hing	467	52	44
孝文帝	Hiao-wên-ti	延興	Yen-hing	471	52	48
		承明	Ch'êng-ming	476	52	53
		太和	T'ai-ho	477	52	54

Dynastic Title or Miao-hao 廟號		Style of Reign or Nien-hao 年號		T A.D.	c	y
宣武帝	Süan-wu-ti	景明	King-ming	500	53	17
		正始	Chêng-shih	504	53	21
		永平	Yung-p'ing	508	53	25
		延昌	Yen-ch'ang	512	53	29
孝明帝	Hiao-ming-ti	熙平	Hi-p'ing	516	53	33
		神龜	Shên-kuei	517	53	34
		正光	Chêng-kuang	519	53	36
		孝昌	Hiao-ch'ang	525	53	42
臨洮王	Lin-t'ao-wang	武泰	Wu-t'ai	528	53	45
孝莊帝	Hiao-chuang-ti	建義	Kien-i	528	53	45
		永安	Yung-an	528	53	45
		更興	Kêng-hing	529	53	46
東海王	Tung-hai-wang	建明	Kien-ming	530	53	47
節閔帝	Ts'ieh-min-ti	普泰	P'u-t'ai	531	53	48
安定王	An-ting-wang	中興	Chung-hing	531	53	48
孝武帝	Hiao-wu-ti	太昌	T'ai-ch'ang	532	53	49
		永興	Yung-hing	532	53	49
		永熙	Yung-hi	532	53	49

西魏紀 The Western Wei Dynasty

文帝	Wên-ti	大統	Ta-t'ung	535	53	52
帝欽	Ti-ts'in			552	54	9
恭帝	Kung-ti			554	54	11

東魏紀 The Eastern Wei Dynasty

孝靜帝	Hiao-tsing-ti	天平	T'ien-p'ing	534	53	51
		元象	Yüan-siang	538	53	55
		興和	Hing-ho	539	53	56
		武定	Wu-ting	543	53	60

北齊紀 The Northern Ts'i Dynasty

文宣帝	Wên-süan-ti	天保	T'ien-pao	550	54	7
廢帝	Fei-ti	乾明	Ts'ien-ming	560	54	17
孝昭帝	Hiao-chao-ti	皇建	Hoang-kien	560	54	17
武成帝	Wu-chêng-ti	太寧	T'ai-ning	561	54	18
		河清	Ho-ts'ing	562	54	19
溫公	Wên-kung	天統	T'ien-t'ung	565	54	22
		武平	Wu-p'ing	570	54	27
		隆化	Lung-hua	576	54	33

Dynastic Title or Miao-hao 廟號		Style of Reign or Nien-hao 年號		T A.D.	C	Y
安德王	An-tê-wang	德昌	Tê-ch'ang	576	54	33
幼主	Yu-chu	承光	Ch'êng-kuang	577	54	34
北周紀	**The Northern Chou Dynasty**					
孝愍帝	Hiao-min-ti			557	54	14
明帝	Ming-ti	武成	Wu-chêng	558	54	15
武帝	Wu-ti	保定	Pao-ting	561	54	18
		天和	T'ien-ho	566	54	23
		建德	Kien-tê	572	54	29
宣帝	Süan-ti	宣政	Süan-chêng	578	54	35
		大成	Ta-ch'êng	579	54	36
靜帝	Tsing-ti	大象	Ta-siang	580	54	37
		大定	Ta-ting	581	54	38
隋紀	**The Sui Dynasty**					
文帝	Wên-ti or }	開皇	K'ai-houng	581	54	38
高祖	Kao-tsu }	仁壽	Jên-shou	601	54	58
煬帝	Yang-ti	大業	Ta-yeh	605	55	2
恭帝侑	Kung-ti-yu	義寧	I-ning	617	55	14
恭帝侗	" " -tung	皇泰	Houng-tai	618	55	15
唐紀	**The T'ang Dynasty**					
高祖	Kao-tsu	武德	Wu-tê	618	55	15
太宗	T'ai-tsung	貞觀	Chên-kuan	627	55	24
高宗	Kao-tsung	永徽	Yung-huei	650	55	47
		顯慶	Hien-ts'ing	656	55	53
		龍朔	Lung-shuo	661	55	58
		麟德	Lin-tê	664	56	1
		乾封	Ts'ien-fêng	666	56	3
		總章	Tsung-chang	668	56	5
		咸亨	Hien-hêng	670	56	7
		上元	Shang-yüan	674	56	11
		儀鳳	I-fêng	676	56	13
		調露	T'iao-lu	679	56	16
		永隆	Yung-lung	680	56	17
		開耀	K'ai-yao	681	56	18
		永淳	Yung-shun	682	56	19
		弘道	Hung-tao	683	56	20

Dynastic Title or Miao-hao 廟號		Style of Reign or Nien-hao 年號		A.D.	C	Y
中宗	Chung-tsung	嗣聖	Sz'-shêng	684	56	21
睿宗	Jui-tsung	文明	Wên-ming	684	56	21
武后	Wu-hou, Empress Wu	光宅	Kuang-tsê	684	56	21
		垂拱	Chui-kung	685	56	22
		永昌	Yung-ch'ang	689	56	26
		載初	Tsai-ch'u	689	56	26
		天授	T'ien-shou	690	56	27
		如意	Ju-i	692	56	29
		長壽	Ch'ang-shou	692	56	29
		延載	Yen-tsai	694	56	31
		證聖	Chêng-shêng	695	56	32
		天冊萬歲	T'ien-tsê-wan-sui	695	56	32
		萬歲通天	Wan-sui-t'ung-t'ien	696	56	33
		神功	Shên-kung	697	56	34
		聖歷	Shêng-li	698	56	35
		久視	Kiu-shih	700	56	37
		大足	Ta-tsu	701	56	38
		長安	Ch'ang-an	701	56	38
中宗	Chung-tsung (resumes the Throne)	神龍	Shên-lung	705	56	42
		景龍	King-lung	707	56	44
睿宗	Jui-tsung	景雲	King-yün	710	56	47
		太極	T'ai-ki	712	56	49
		延和	Yen-ho	712	56	49
玄宗	Hüan-tsung	開元	K'ai-yüan	713	56	50
		天寶	T'ien-pao	742	57	19
肅宗	Su-tsung	至德	Chih-tê	756	57	33
		乾元	Ts'ien-yüan	758	57	35
		上元	Shang-yüan	760	57	37
		寶應	Pao-ying	762	57	39
代宗	Tai-tsung	廣德	Kuang-tê	763	57	40
		永泰	Yung-t'ai	765	57	42
		大歷	Ta-li	766	57	43
德 |	Tê-tsung	建中	Kien-chung	780	57	57
		興元	Hing-yüan	784	58	1
		貞元	Chên-yüan	785	58	2

Dynastic Title or Miao-hao 廟號		Style of Reign or Nien-hao 年號		T A.D.	C	Y
順宗	Shun-tsung	永貞	Yung-chên	805	58	22
憲丨	Hien- "	元和	Yüan-ho	806	58	23
穆丨	Mu- "	長慶	Ch'ang-tsing	821	58	38
敬丨	King- "	寶歷	Pao-li	825	58	42
文丨	Wên- "	太和	T'ai-ho	827	58	44
		開成	K'ai-chêng	836	58	53
武丨	Wu- "	會昌	Huei-ch'ang	841	58	58
宣丨	Süan- "	大中	T'ai-chung	847	59	4
懿丨	Yi- "	咸通	Hien-tung	860	59	17
僖丨	Hi- "	乾符	Ts'ien-fu	874	59	31
		廣明	Kuang-ming	880	59	37
		中和	Chung-ho	881	59	38
		光啟	Kuang-ts'i	885	59	42
		文德	Wên-tê	888	59	45
昭丨	Chao- "	龍紀	Lung-ki	889	59	46
		大順	Ta-shun	890	59	47
		景福	King-fu	892	59	49
		乾寧	Ts'ien-ning	894	59	51
		光化	Kuang-hua	898	59	55
		天復	T'ien-fu	901	59	58
		天祐	T'ien-yu	904	60	1
昭宣帝	Chao-süan-ti	天祐	T'ien-yu	905	60	2

五代 Epoch of the Five Dynasties.

後梁紀 I. The Posterior Liang Dynasty

太祖	T'ai-tsu	開平	K'ai-p'ing	907	60	4
		乾化	Ts'ien-hua	911	60	8
末帝	Mo-ti	貞明	Chên-ming	915	60	12
		龍德	Lung-tê	921	60	18

後唐紀 II. The Posterior T'ang dynasty

莊宗	Chuang-tsung	同光	T'ung-kuang	923	60	20
明丨	Ming-tsung	天成	T'ien-chêng	926	60	23
明宗		長興	Ch'ang-hing	930	60	27
閔帝	Min-ti	應順	Ying-shun	934	60	31
廢帝 路王	Fei-ti or Lu-wang	清泰	Ts'ing-t'ai	934	60	31

Dynastic Title or Miao-hao 廟號		Style of Reign or Nien-hao 年號		A.D.	C	Y
	後晉紀 III The Posterior Tsin Dynasty					
高祖	Kao-tsu	天福	T'ien-fu	936	60	33
齊王	Chu-chung-kuei or Tsi-wang		" "	943	60	40
		開運	K'ai-yün	944	60	41
	後漢紀 IV The Posterior Han Dynasty					
高祖	Kao-tsu	天福	T'ien-fu	947	60	44
		乾祐	Ts'ien-yu	948	60	45
隱帝	Yin-ti		" "	948	60	45
	後周紀 V The Posterior Chou Dynasty					
太祖	T'ai-tsu	廣順	Kuang-shun	951	60	48
世宗	Shih-tsung	顯德	Hien-tê	954	60	51
恭帝	Kung-ti		" "	960	60	57
	宋紀 The Sung Dynasty.					
太祖	T'ai-tsu	建隆	Kien-lung	960	60	57
		乾德	Ts'ien-tê	963	60	60
		開寶	K'ai-pao	968	61	5
太宗	T'ai-tsung	太平興國	T'ai-p'ing-hing-kuo	976	61	13
		雍熙	Yung-hi	984	61	21
		端拱	Tuan-kung	988	61	25
		湻化	Shun-hua	990	61	27
		至道	Chih-tao	995	61	32
真〡	Chên-tsung	咸平	Hien-p'ing	998	61	35
		景德	King-tê	1004	61	41
		大中祥符	Ta-chung-siang-fu	100[illegible]	61	45
		天禧	T'ien-hi	1017	61	54
		乾興	Ts'ien-hing	1022	61	59
仁〡	Jên-tsung	天聖	T'ien-shêng	1023	61	60
		明道	Ming-tao	1032	62	9
		景祐	King-yu	1034	62	11
		寶元	Pao-yüan	1038	62	15
		康定	K'ang-ting	1040	62	17
		慶曆	Ts'ing-li	1041	62	18
		皇祐	Hoang-yu	1049	62	26
		至和	Chih-ho	1054	62	31
		嘉祐	Kia-yu	1056	62	33

Dynastic Title or Miao-hao 廟號		Style of Reign or Nien-hao 年號		T A.D.	C	Y
英宗	Ying-tsung	治平	Chih-ping	1064	62	41
神 |	Shên- "	熙寍	Hi-ning	1068	62	45
		元豐	Yüan-fêng	1078	62	55
哲 |	Chê- "	元祐	Yüan-yu	1086	63	3
		紹聖	Shao-shêng	1094	63	11
		元符	Yüan-fu	1098	63	15
徽 |	Huei- "	建中靖國	Kien-chung-tsing-kuo	1101	63	18
		崇寍	Ch'ung-ning	1102	63	19
		大觀	Ta-kuan	1107	63	24
		政和	Chêng-ho	1111	63	28
		重和	Chung-ho	1118	63	35
		宣和	Süan-ho	1119	63	36
欽 |	Ts'in- "	靖康	Tsing-k'ang	1126	63	43

南宋紀 The Southern Sung Dynasty

高宗	Kao-tsung	建炎	Kien-yen	1127	63	44
		紹興	Shao-hing	1131	63	48
孝 |	Hiao- "	隆興	Lung-hing	1163	64	20
		乾道	Ts'ien-tao	1165	64	22
		湻熙	Shun-hi	1174	64	31
光 |	Kuang- "	紹熙	Shao-hi	1190	64	47
寍 |	Ning- "	慶元	Tsing-yüan	1195	64	52
		嘉泰	Kia-t'ai	1201	64	58
		開禧	K'ai-hi	1205	65	2
		嘉定	Kia-ting	1208	65	5
理 |	Li- "	寶慶	Pao-ts'ing	1225	65	22
		紹定	Shao-ting	1228	65	25
		端平	Tuan-p'ing	1234	65	31
		嘉熙	Kia-hi	1237	65	34
		湻祐	Shun-yu	1241	65	38
		寶祐	Pao-yu	1253	65	50
		開慶	K'ai-ts'ing	1259	65	56
		景定	King-ting	1260	65	57
度 |	Tu- "	咸湻	Hien-shun	1265	66	2
恭帝	Kung-ti	德祐	Tê-yu	1275	66	12
端宗	Tuan-tsung	景炎	King-yen	1276	66	13
帝昺	Ti-ping	祥興	Siang-hing	1278	66	15

Dynastic Title or Miao-hao 廟號		Style of Reign or Nien-hao 年號		A.D.	C	Y
	元紀 The Yüan or Mongol Dynasty					
太祖	T'ai-tsu	named Temuchin or Genghis		1206	65	3
太宗	T'ai-tsung	"	Ogdai	1229	65	26
定宗	Ting-tsung	"	Gayuk	1246	65	43
憲宗	Hien-tsung	"	Mangu	1251	65	48
世祖	Shi-tsu or Kublai	中統	Chung-t'ung	1260	65	57
		至元	Chih-yüan	1264	66	1
成宗	Ch'êng-tsung or Temur	元貞	Yüan-chên	1295	66	32
		大德	Ta-tê	1297	66	34
武宗	Wu-tsung or Küllük	至大	Chih-ta	1308	66	45
仁宗	Jên-tsung or Ayuli Palpata	皇慶	Hoang-ts'ing	1312	66	49
		延祐	Yen-yu	1314	66	51
英宗	Ying-tsung or Kotpala	至治	Chih-chih	1321	66	58
泰定	T'ai-ting or Yessun Temur	泰定	T'ai-ting	1324	67	1
		致和	Chih-ho	1328	67	5
明宗	Ming-tsung or Hosila	天歷	T'ien-li	1329	67	6
文帝	Wên-ti or Tuptemur	天歷	T'ien-li	1330	67	7
		至順	Chih-shun	1330	67	7
順帝	Shun-ti or Togon Temur	元統	Yüan-t'ung	1333	67	10
		至元	Chih-yüan	1335	67	12
		至正	Chih-chêng	1341	67	18
	明紀 The Ming Dynasty					
太祖	T'ai-tsu	洪武	Hung-wu	1368	67	45
惠帝	Huei-ti	建文	Kien-wên	1399	68	16
成祖	Ch'êng-tsu	永樂	Yung-lo	1403	68	20
仁宗	Jên-tsung	洪熙	Hung-hi	1425	68	42
宣宗	Süan-tsung	宣德	Süan-tê	1426	68	43
英宗	Ying-tsung	正統	Chêng-t'ung	1436	68	53
代宗 }	Tai-tsung }	景泰	King-t'ai	1450	69	7
景帝 }	King-ti }					
英宗	Ying-tsung (resumes gov.)	天順	T'ien-shun	1457	69	14
憲宗	Hien-tsung	成化	Ch'êng-hua	1465	69	22
孝〃	Hiao- "	弘治	Hung-chih	1488	69	45
武〃	Wu- "	正德	Chêng-tê	1506	70	3
世〃	Shih- "	嘉靖	Kia-tsing	1522	70	19

Dynastic Title or Miao-hao 廟號		Style of Reign or Nien-hao 年號		A.D.	C	Y
穆宗	Mu-tsung	隆慶	Lung-ts'ing	1567	71	4
神丨	Shên- "	萬歷	Wan-li	1573	71	10
光丨	Kuang- "	泰昌	T'ai-ch'ang	1620	71	57
熹丨	Hi- "	天啟	T'ien-ts'i	1621	71	58
莊烈帝	Chuang-lieh-ti	崇禎	Ch'ung-chên	1628	72	5

大清朝 The Tats'ing or Manchu Dynasty

太祖高皇帝	T'ai-tsu-kao	天命	T'ien-ming	1616	71	53
太宗文皇帝	T'ai-tsung-wên	天聰	T'ien-tsung	1627	72	4
		崇德	Ch'ung-tê	1636	72	13
世祖章皇帝	Shih-tsu-chang	順治	Shun-chih	1644	72	21
聖祖仁皇帝	Shêng-tsu-jên	康熙	K'ang-hi	1662	72	39
世宗憲皇帝	Shih-tsung-hien	雍正	Yung-chêng	1723	73	40
高宗純皇帝	Kao-tsung-shun	乾隆	Ts'ien-lung	1736	73	53
仁宗睿皇帝	Jên-tsung-jui	嘉慶	Kia-tsing	1796	74	33
宣宗成皇帝	Süan-tsung-chêng	道光	Tao-kuang	1821	75	18
文宗顯皇帝	Wên-tsung-hien	咸豐	Hien-fêng	1851	75	48
穆宗毅皇帝	Mu-tsung-i	同治	T'ung-chih	1862	75	59
	The reigning Emperor	光緒	Kuang-hü	1875	76	12

The Tartar Dynasty

遼紀 The Liao Dynasty (Ki-tan Tartars)

太祖	T'ai-tsu	神冊	Shên-tsʻê	916	60	13
		天贊	T'ien-tsan	922	60	19
		天顯	T'ien-hien	925	60	22
太宗	T'ai-tsung	天顯	T'ien-hien	925	60	22
		會同	Hui-t'ung	937	60	34
		大同	Ta-t'ung	946	60	43
世丨	Shih- "	天祿	T'ien-lu	947	60	44
穆丨	Mu- "	應歷	Ying-li	951	60	48
景丨	King- "	保寧	Pao-ning	968	61	5
		乾亨	Ts'ien-hêng	978	61	15
聖丨	Shêng- "	統和	T'ung-ho	983	61	20
		開泰	K'ai-t'ai	1012	61	49
		太平	T'ai-p'ing	1020	61	57
興宗	Hing-tsung	景福	King-fu	1031	62	8
		重熙	Chung-hi	1032	62	9
道宗	Tao-tsung	清寧	Ts'ing-ning	1055	62	32
		咸雍	Hien-yung	1066	62	43

Dynastic Title or Miao-hao 廟號		Style of Reign or Nien-hao 年號		A.D.	C	Y
道宗	Tao-tsung (contin.)	大康	Ta-kang	1074	62	51
		大安	Ta-an	1083	62	60
		壽隆	Shou-lung	1092	63	9
天祚	T'ien-cha	乾統	Ts'ien-t'ung	1101	63	18
		天慶	T'ien-ts'ing	1110	63	27
		保大	Pao-ta	1119	63	36

西遼紀 The Western Liao Dynasty

德宗	Tê-tsung	延慶	Yen-ts'ing	1125	63	42
		康國	K'ang-kuo	1126	63	43
感天后	Kan-t'ien-hou	咸清	Hien-ts'ing	1136	63	53
仁宗	Jên-tsung	紹興	Shao-hing	1142	63	59
承天	Ch'êng-t'ien	崇福	Ch'ung-fu	1154	64	11
末主	Mo-chu	天禧	T'ien-hi	1168	64	25

金紀 The Kin Dynasty (Nü-chen Tartars)

太祖	T'ai-tsu	收國	Shou-kuo	1115	63	32
		天輔	T'ien-fu	1118	63	35
太宗	T'ai-tsung	天會	T'ien-huei	1123	63	40
熙宗	Hi-tsung	〃〃	T'ien-huei	1123	63	40
		天眷	T'ien-ts'üan	1138	63	55
		皇統	Hoang-t'ung	1141	63	58
海陵王	Hai-ling-wang	天德	T'ien-tê	1149	64	6
		貞元	Chên-yüan	1153	64	10
		正隆	Chêng-lung	1156	64	13
世宗	Shih-tsung	大定	Ta-ting	1161	64	18
章宗	Chang-tsung	明昌	Ming-ch'ang	1190	64	47
		承安	Ch'êng-an	1196	64	53
		泰和	T'ai-ho	1201	64	58
衛紹王	Wei-shao-wang	大安	Ta-an	1209	65	6
		崇慶	Ch'ung-ts'ing	1212	65	9
宣宗	Süan-tsung	貞祐	Chên-yu	1213	65	10
		興定	Hing-ting	1217	65	14
		元光	Yüan-kuang	1222	65	19
哀宗	Ai-tsung	正大	Chêng-ta	1224	65	21
		天興	T'ien-hing	1232	65	29
		開興	K'ai-hing	1233	65	30
末帝	Mo-ti	盛昌	Shêng-ch'ang	1234	65	31