

Errata and Notes for
Calendrical Tabulations

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If you find errors not given below or can suggest improvements to the book, please send us the details (email to reingold@iit.edu or hardcopy to Edward M. Reingold, Department of Computer Science, Illinois Institute of Technology, 10 West 31st Street, Suite 236, Chicago, IL 60616-3729 U.S.A.). If you have occasion to refer to errors below in corresponding with the authors, please refer to the item by page and line numbers in the book, *not* by item number.

Our thanks to the following people for the indicated errata:

Ariq Arar: 7, 15.

Nathan Jastram: 10.

Birgir T. Arnar: 1, 16–17.

A list of errata in order by date added or last modified is given at the end of this document.

The latest version of this document can be obtained from the Web site <http://www.calendarists.com>

1. Front of dust jacket: The artist's decision to use a negative image of the calendar pages had the effect of interchanging the full/new moon symbols and also first quarter/last quarter symbols visible in the Gregorian calendar at the middle bottom, just behind the author's names! (Courtesy of Birgir T. Arnar, September 4, 2002.)
2. Lower part of front flap of dust jacket: The statement that the book "will be of use for centuries by anyone with an interest in calendars" is odd—who will live for centuries?!
3. Bookmark: It was cut too long—it should have a 1/4 inch trimmed from each end so it can fit easily end to end across a page without the binding getting in the way.
4. It would be better if the column widths were identical from year to year.
5. The column headings should be repeated at the bottom of the columns.
6. Good quote for someplace: "All the tables hitherto published, of this kind, which extend beyond the year 1900 of the Christian era, are erroneous..." W. S. B. Woolhouse, *Measures, Weights, & Moneys of All Nations: and an Analysis of the Christian, Hebrew, and Mahometan Calendars*, 7th ed., Crosby Lockwood, London, 1890. Reprinted by Ares Publishers, Chicago, 1979.
- *7. Page xv, lines 6–7: The offset for the Kollam era should be -746, and for the Nepalese, -801. (Courtesy of Ariq Arar, December 25, 2018.)
- *8. Page xv, lines -12 and -11: Our rounding of times is incompatible with our method of determining a date. Specifically, when a lunar phase, equinox, or solstice occurs seconds before midnight, the date is correctly indicated, but the time will round up to midnight and be shown as 0:00 instead of 24:00. This incompatibility caused Errata 16, 17, 18, 19, 20, 21, 22, and 23.
- **9. Page xv, lines -5 and -4: Unfortunately, our \TeX macro reversed the times when two lunar phases occur during the same week; in all such cases in the tables, the times are switched.

10. Page xix, line –8: Add the sentence, “ Molad times are given on a midnight-based clock (as is customarily announced in synagogues).” (Courtesy of Nathan Jastram, July 8, 2004.)
11. Page xix, line –6 (new warning for the Hebrew calendar): Molad times are given on a midnight-based clock.
12. Page xxiii, line –20: We had read that the location used for the Persian calendar calculations was not fixed in the 1925 law, and hence chose Tehran for our calculations. However, in a letter dated March 7, 1998 to E.M.R., Masahallah Ali-Ahyaie of Tehran said “The exact time of equinox (in Iranian Standard Time, i.e., U.T.+3.5 hours) is compared to the time of the apparent or true solar noon on longitude 52.5 E (3.5 hours). Then if the time of the equinox (to the nearest second) is before the true solar noon, that year is not a leap year. But if the equinox time happens exactly at the time of the true solar noon, as defined above, or after the true solar noon, that particular year will be considered as a leap year (366 days).” He repeated this claim in email messages on October 2–3, 2003, saying that the fixing of the longitude *is* part of the 1925 law. We ought to verify what the 1925 law says (a French translation of the law in <http://www.nabkal.de/irankal.html> does not specify the location). There are two years in the range 1900–2200 in which the difference causes the date of Persian new year to be one day later: In 2091 and 2157 Persian new year would occur on March 21 instead of March 20; these years are already marked as close calls.
13. Page xxvi, fifth warning (lines –11 and –10): Replace the warning with “The sequence of Hindu months, their names, and the starting month of the new year all differ regionally. We follow the conventions that the solar year begins with Sowramana Ugadi (first of Vaiśākha), and the lunar year with Chandaramana Ugadi (first of Chaitra).”
14. Page xxvii, line –5: We made the less-than-obvious choice of Los Angeles as the location for the Islamic calendar based on the advice of Khalid Shaukat who wrote to N.D. on April 28, 2000 saying:

The reason I pick Los Angeles is that according to the known practices these dates would be closest to Middle Eastern countries’ practices although the visibility would not be in the Middle East. Moreover, in many cases, if the visibility is not in Los Angeles then most of the world would see it the next day and that would be reflected in the calculated dates for Los Angeles. The dates for Los Angeles would also be good for the rest of North America if an aided eye is used, which will also be in line with actual practice and I think these dates would be the closest to practices all around the world.

In other words, actual observance of Ramadan and other Islamic holidays frequently precedes dates as calculated astronomically, for various non-scientific reasons. See http://moonsighting.com/faq_ms.html and other Internet sites for much discussion about this. Choosing Los Angeles gives dates that are both scientifically and religiously reasonable for the United States *and* in excellent agreement with actual observance in the Mideast.

- **15. Pages 73, 75, 215, 337, 443, 445, 477, 553, and 587, Islamic (Astronomical): In these years the tables show a 31st day, longer than allowed, of an Islamic month. Instead, that day should be the first of the following month—provided the moon becomes visible (according to the simple criterion we use). This shift can cascade for several months (as it does in 2006). We do not take this into account, because there is no way to determine when *in fact* the new moons are actually declared, and which months are affected. We should have footnoted the following spurious occurrences of 31-day months:

Page	Gregorian Year	Islamic Year	Row
73	1935	1354	35
75	1936	1355	34
215	2006	1427	34
337	2067	1490	33
443	2120	1545	35
445	2121	1546	33
477	2137	1562	34
553	2175	1602	38
587	2192	1619	36

(Courtesy of Ariq Arar, November 1, 2009.)

16. Page 288, leftmost column, footnote e: The winter solstice will occur on Monday, December 21, 2043 just before midnight, so change “(0:00)” to “(24:00)”. (Courtesy of Birgir T. Arnar, January 24, 2005.)
17. Page 398, leftmost column, November 15, 2098: The last quarter moon will be just before midnight on that date, so change “0:00” to “24:00”. (Courtesy of Birgir T. Arnar, January 31, 2005.)
18. Page 400, leftmost column, August 22, 2099: The first quarter moon will be just before midnight on that date, so change “0:00” to “24:00”.
19. Page 434, leftmost column, January 6, 2116: The last quarter moon will be just before midnight on that date, so change “0:00” to “24:00”.
20. Page 484, leftmost column, July 3, 2141: The new moon will be just before midnight on that date, so change “0:00” to “24:00”.
21. Page 502, leftmost column, January 2, 2151: The full moon will be just before midnight on that date, so change “0:00” to “24:00”.
22. Page 504, leftmost column, January 2, 2151: The full moon will be just before midnight on that date, so change “0:00” to “24:00”.
23. Page 560, leftmost column, September 16, 2179: The full moon will be just before midnight on that date, so change “0:00” to “24:00”.
24. Page 605, after line 8: Add a new warning for the Hebrew calendar, “Molad times are given on a midnight-based clock.”
25. Page 606, fifth warning (lines 13–14): Replace the warning with “The sequence of Hindu months, their names, and the starting month of the new year all differ regionally. We follow the conventions that the solar year begins with Sowramana Ugadi (first of Vaiśākha), and the lunar year with Chandaramana Ugadi (first of Chaitra).”

The dates that errata were added to the list or last modified are as follows:

2002/08/27: 2–5.	2005/01/31: 17.
2002/09/04: 1.	2005/03/30: 12.
2002/10/24: 6.	2006/09/08: 13, 25.
2003/07/30: 14.	2009/11/13: 15.
2004/07/13: 10–11, 24.	2019/07/30: 7.
2005/01/24: 8–9, 16, 18–23.	