

# Proposal for a Generalised Dual-Date Representation

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# Contents

<b>1. Abstract .....</b>	<b>3</b>
<b>2. Proposal .....</b>	<b>3</b>
<b>3. Not Covered or Not Required.....</b>	<b>3</b>
<b>4. Illustration.....</b>	<b>3</b>
<b>5. Use Cases .....</b>	<b>4</b>
<b>6. References .....</b>	<b>4</b>

## 1. Abstract

Proposal to handle dual dating (i.e. Gregorian/Julian pairs) in a generic way that accommodates other synchronised dating systems around the world. We should not consider the Gregorian/Julian issue to be any way special, and it should not be implemented as a special case.

## 2. Proposal

The current Gregorian calendar was finally adopted by Britain and the British Empire (which included much of what is now the US) in September 1752. Before that point, they used the Julian calendar. The start of the year was also changed from March 25 to January 1, although this didn't quite happen at the same time in all locations. Until the Calendar Act 1750, there were alternative years depending on whether the Old Style (OS) or New Style (NS) calendar was in use.

A system of dual-dating was implemented during the changeover, where dates from both calendar systems were written together, e.g. "12/23 Feb 1750/1751" represents 12 February 1750 in the Old Style + Julian calendar, and 23 February 1751 in the New Style + Gregorian calendar. This scheme is referred to as "Dual dating" or "Double dates", but sometimes incorrectly as "Double years" (not only the years were affected).

In fact, similar issues affect other world calendars, and there are alternative examples of dual, or even triple, dates to consider.

In Israel, for instance, government documents usually carry a dual date embracing both the traditional Hebrew calendar and the Gregorian calendar.

The Indian Calendar Reform Committee, appointed in 1952 identified more than thirty well-developed calendars in systematic use across India. The two calendars most widely used in India today are the Vikrama calendar and the Shalivahana (or Saka) calendar. The Indian National Calendar is a formalised version of Shalivahana, created by the Indian Calendar Reform Committee in 1957 that has an agreed synchronisation with the Gregorian calendar. Many official documents carry both a Gregorian and National Calendar date, and sometimes Vikrama too resulting in a triple date.

## 3. Not Covered or Not Required

The proposal makes no assumptions about how dates from different calendar systems are represented. A separate proposal makes a case for a modified subset of the ISO 8601 standard for Gregorian dates. A separate proposal will be made for generalising the date syntax to accommodate any number of alternative calendars.

The proposal does not recommend that the synchronised date elements should be merged into a single date value. Date conversions can be far from trivial. All encoded date values should be specific to their original calendar system. For synchronised dates, this implies references to multiple calendars for a single evidential date.

## 4. Illustration

The aforementioned date of "12/23 Feb 1750/1751" is represented here using STEMMA syntax:

```
<Date Original="12/23 Feb 1750/1751">  
  <Title> Example dual date </Title>  
  <Value Calendar='Gregorian'> 1751-02-23 </Value>  
  <Value Calendar='Julian'> 1750-02-12 </Value>  
</Date>
```

The syntax itself is not important. However, each calendar measurement is encoded using its appropriate syntax (e.g. ISO 8601 for Gregorian). The calendar ID should, in general, be part of the numeric string but the calendar name is explicit in this example so it is not strictly needed. The overall Date element also retains a transcript of the original evidence date.

## 5. Use Cases

Dates will need to be recorded from around the world. In many cases, particularly in official documents, this will involve some system of synchronised dates from different prevailing calendars.

The Western Gregorian/Julian system is, therefore, not a special case. The Data Model must have a generalised scheme for representing two-or-more synchronised dates as a single entity.

## 6. References

Dual Dates. [http://en.wikipedia.org/wiki/Dual\\_dating](http://en.wikipedia.org/wiki/Dual_dating).

Epoch Date: [http://en.wikipedia.org/wiki/Epoch\\_\(reference\\_date\)](http://en.wikipedia.org/wiki/Epoch_(reference_date)).

Indian National Calendar. [http://en.wikipedia.org/wiki/Indian\\_national\\_calendar](http://en.wikipedia.org/wiki/Indian_national_calendar).

Indian Calendar. <http://www.webexhibits.org/calendars/calendar-indian.html>.

STEMMA Example. <http://www.familyhistorydata.parallaxview.co/data-model> ('Double years' section).