Chapter 13. Newhu Nuswei Calendar

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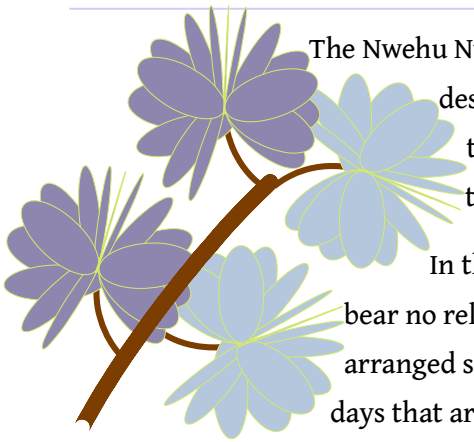
13.1. About Newhu Nuswei Calendars



The Nwehu Nuswei calendar is inspired in part by J.R.R.Tolkien's Shire Calendar, described in Appendix D of *The Lord of the Rings*. However, like the language, the Nwehu Nuswei (NN) calendar is configured using number-base sixteen, the number-base around which most computer architectures are designed.

In the Gregorian (our "standard") calendar, weeks are all of seven days, and bear no relation to months or years. The Shire Calendar and the NN Calendar are arranged so that each year begins on the same week-day. This is done by inserting days that are not part of any week, and serve as rest-days or festivals.

The attempt is to base the calendar's periods on powers of two (2, 4, 8, 16, 32, etc.), which leads to dismissing the concept of a seven-day week – a concept which the Shire Calendar retained. At the same time, any terrestrial calendar must conform to the terrestrial revolution period, which is approximately 365.242 days long. Of course, the fractional number of rotations in the revolution leads to problems with any calendar system, generally addressed by a system of "leap days", the extra days added (or not added) to synchronize the calendar with the seasons. This calendar, like many others, provides for a "leap day" that can be inserted every four years, and not inserted when doing so would throw the calendar out of synchronization.

Periods in the NN calendar are created by aggregating days in groups of 4, 8, 16, and 32. (Note that in NN, as in many computer programming languages, counting begins with 0 rather than 1.) There are several ways to intersperse work days and rest days; I have drafted three as "standard options". The number of rest days in these calendars is roughly equivalent to what the Gregorian calendar offers. If NN were actually to be adopted as a world language, nations or regions would have the choice of any of the three calendar options – or others like them – so that any or all of the NN calendars could conceivably be in use in different parts of the world. Since all the options share the same season-beginning dates roughly coinciding with the solstices and equinoxes, these would serve as common "anchors" uniting all NN calendars.

13.2. Nwehu Nuswei Calendar Words

All NN words expressing related concepts begin with the same or similar syllable. In the case of time and calendar concepts, the initial syllable is ᛯᛋ- *Tw-* [tu]. Some are listed below with their English equivalents. These English equivalents have been constructed for convenience in refering to the concepts.

13.2.1. General Calendar Words

Time concepts are expressed in GENUS ᛯᛋ-- *Tw--*. The major subdivisions are listed in 𝔇ρ 13.1.

NN	Latin	IPA	Semantics
ᛯᛋᛁ-	*Twh-*	tuh	Time, relativity of time; as a dimension of space-time
ᛯᛋᛚ-	*Twx-*	tuʃ	Year of Earth; year of other planets
ᛯᛋᚴ-	*Tws-*	tus	Time measurement systems
ᛯᛋᚳ-	*Twf-*	tuf	Calendars, clocks
ᛯᛋᚱ-	*Twr-*	tuʁ	Day of Earth; day of other planets; time when day/night is not relevant
ᛯᛋᛈ-	*Twy-*	tuʒ	Gregorian and other calendar systems
ᛯᛋᚴ-	*Twn-*	tun	Standard time units: month, week, hour, minute, second
ᛯᛋᚷ-	*Twm-*	tum	Types of days: of week, of work, of rest, festival, holy, memorial, anniversary, national or peculiar to groups of people

𝔇ρ 13.1 General time concept Geni

13.2.2. Nwehu Nuswei Calendar words

NN	Latin	IPA	Semantics	English, Notes
ᛯᛋᛊᛏ	***twku***	**tu'kə**	**Hexadecimal time and date system**	
ᛯᛋᛊᚹ	*twka*	tu'ka	4-day “week”	Quad-day – used in Calendar Option 1
ᛯᛋᛊᛋ	*twkw*	tu'ku	8-day “week”	Oct-day – half of a Hex-day in Calendar Options 2 and 3
ᛯᛋᛊᛘ	*twkwe*	tu'kwe	16-day week (or month)	Hex-day – the primary grouping of days in Options 2 and 3
ᛯᛋᛊᛐ	***twcu***	**tu'ʧə**	**Seasons**	
ᛯᛋᛊᛁ	*twci*	tu'ʧi	Winter (astronomical season)	These seasons are the same in northern and southern hemispheres.

NN	Latin	IPA	Semantics	English, Notes
𞤊𞤋𞤍𞤃	*twce*	tu'ʧe	Spring (astronomical season)	The cold, warm, and in-between seasons are referred to using meteorological words (not developed at this time; probably in the *D*---FAMILY relating to natural phenomena.)
𞤊𞤋𞤍𞤄	*twcei*	tu'ʧej	Summer (astronomical season)	
𞤊𞤋𞤍𞤀	*twca*	tu'ʧa	Autumn (astronomical season)	
			Days	
𞤊𞤋𞤊𞤢	*twtu*	tu'tə	a work-day	Counted: 0=*twtu*, 1=*twti*, 2=*twte*, 3=*twtei*, 4=*twta*, 5=*twtai*, 6=*twto*, 7=*twtoi*, 8=*twtw*, 9=*twtwui*, 10-*twtwe*, 11=*twtwei*, 12-*twtwa*, 13=*twtwai*, 14=*twtwo*, 15=*twtwoi*
𞤊𞤋𞤍𞤢	*twpu*	tu'pə	a rest-day or festival-day	Counted like twtu: 0=*twpu*, 1=*twpi*, etc.

𝒟ₚ 13.2: Calendar vocabulary

In our Gregorian calendar, we can refer to any day of the year using two words, the month and day-number, as in March 15 or September 22. The day of the week is often added for clarity, as in Friday, January 1. Likewise, in the NN calendar, two words can be used to refer to any day of the year: the 𞤊𞤋𞤑𞤑 *twkwe* (sixteen-day period) and the 𞤊𞤋𞤣𞤢 *twmu* (day). For example, 𞤊𞤋𞤍𞤀 𞤊𞤋𞤍𞤃 *Twca Twpo* [tu'ʧa tu'po] was September 22 in 2016. Since 𞤊𞤋𞤊𞤐 *Twtwa*, 𞤊𞤋𞤍𞤃 *Twpo*, or any day-name also serve as "weekday" names, there is no need to add a third word for clarity.

However, these two-word day names refer to different days of the year in each of the calendar options. Perhaps this is a good reason for everybody to use to use the same option. For example:

- 𞤊𞤋𞤎𞤀 𞤊𞤋𞤊𞤐 *Twga Twtwa* [tu'ga tu'twa] is:
  - the 111th day of the year in Calendar 1 (Gregorian date April 10 in 2016), but
  - the 87th day of the year in Calendar 2 (Gregorian March 18, 2016).
- 𞤊𞤋𞤎𞤀 𞤊𞤋𞤊𞤐 *Twga Twtwa* [tu'ga tu'twa] in any NN calendar also changes its Gregorian date depending on the year; using Calendar 2 it is:
  - March 18, 2016 (a leap year), but
  - March 17, 2017 (a non-leap year) because the leap day is added to February in the Gregorian system, but in mid-summer in the NN system.

Another source of differences between all NN calendars and Gregorian calendars: the Winter Solstice is always the first day of the NN year, but its date varies between December 19 and 21 in the Gregorian system.

13.3. Calendar Options

Three calendar options have been drafted. All have seasons of the same length (91 days) beginning on the same day: the northern hemisphere's shortest day of the year (Winter Solstice). This results in people in the southern hemisphere beginning each year in their summer (as they do with the Gregorian calendar), and celebrating the longest 𐑑𐑢𐑥𐑢𐑧 *twmwe* festival period in mid-winter.

Each option has differing numbers of festival days at the beginning (in Option 2) or interspersed (in Options 1 and 3). I personally tend to favor Option 2, and created full-year calendars for 2016 and 2017 using Option 2, with integrated Gregorian dates.

13.3.1. Calendar Option 1

Calendar 1 is based on four 𐑑𐑢𐑒𐑢𐑧 *twkwe* (short-months of 16 work-days) in each of the four seasons.
Each 𐑑𐑢𐑒𐑢𐑧 *twkwe* is divided into four 𐑑𐑢𐑒𐑩 *twka* (short weeks) composed of four 𐑑𐑵𐑥𐑴 *tumo* (work-days) and one 𐑑𐑢𐑥𐑦 *twmi* rest-day. Each season begins with a 𐑑𐑢𐑥𐑢𐑧 *twmwe* (seasonal festival period) of five days.
The second, third, and fourth 𐑑𐑢𐑒𐑢𐑧 *twkwe* of each season have two extra 𐑑𐑢𐑥𐑦 *twmi* (rest-days) before the first 𐑑𐑢𐑒𐑩 *twka*.
Most years, a single 𐑑𐑢𐑥𐑢𐑰 *twmwi* (extra festival day) is added as a Midyear Day; in leap years, the 𐑑𐑢𐑥𐑱 *twmei* (leap day) is added after the 𐑑𐑢𐑥𐑢𐑰 *twmwi*. The complete Calendar Option 1 is shown in 𐑛𐑹 13.3 – 13.6:[11]

11 Colored words correspond to colors of days on the following calendars.

𝔇ρ 13.3:

ᏦᎩᏁᏏ *TWCI 'WINTER' Calendar Option 1*

0	1	2	3	4
ᏦᎩᎤᏐ	0	1	2	3	5
Twgu	4	5	6	7	6
	8	9	10	11	7
	12	13	14	15	8

1	0	1			
ᏦᎩᏓ	0	1	2	3	2
Twgi	4	5	6	7	3
	8	9	10	11	4
	12	13	14	15	5

2	0	1			
ᏦᎩᏗ	0	1	2	3	2
Twge	4	5	6	7	3
	8	9	10	11	4
	12	13	14	15	5

3	0	1			
ᏦᎩᏘ	0	1	2	3	2
Twgei	4	5	6	7	3
	8	9	10	11	4
	12	13	14	15	5

Dρ 13.4:

ᏦᎩᏁᏧ *TWCE* 'Spring' *Calendar Option 1*

4					
ᏦᎩᎠᎮ	0	1	2	3	4
Twga	0	1	2	3	5
	4	5	6	7	6
	8	9	10	11	7
	12	13	14	15	8

5					
ᏦᎩᎠᏆ	0	1			
Twgai	0	1	2	3	2
	4	5	6	7	3
	8	9	10	11	4
	12	13	14	15	5

6					
ᏦᎩᎠᏈ	0	1			
Twge	0	1	2	3	2
	4	5	6	7	3
	8	9	10	11	4
	12	13	14	15	5

7					
ᏦᎩᎠᏉ	0	1			
Twgei	0	1	2	3	2
	4	5	6	7	3
	8	9	10	11	4
	12	13	14	15	5

ᏦᎩᏓᏏ *TWMI Midyear*

0	(1)*

*Extra day on leapyears

Dp 13.5:

ᏦᎩᏓᏏ *TWCEI* 'SUMMER' *Calendar Option 1*

8	0	1	2	3	4
ᏦᎩᎤᎩ	0	1	2	3	5
Twgw	4	5	6	7	6
	8	9	10	11	7
	12	13	14	15	8

9	0	1			
ᏦᎩᎤᏂ	0	1	2	3	2
Twgwi	4	5	6	7	3
	8	9	10	11	4
	12	13	14	15	5

10	0	1			
ᏦᎩᎤᎨ	0	1	2	3	2
Twgwe	4	5	6	7	3
	8	9	10	11	4
	12	13	14	15	5

11	0	1			
ᏦᎩᎤᎪ	0	1	2	3	2
Twgwei	4	5	6	7	3
	8	9	10	11	4
	12	13	14	15	5

Dp 13.6:

ᏦᎩᏁᏢ *TWCA* 'Autumn' *Calendar Option 1*

12	0	1	2	3	4
ᏦᎩᏙᏎ	0	1	2	3	5
Twgwa	4	5	6	7	6
	8	9	10	11	7
	12	13	14	15	8

13	0	1			
ᏦᎩᏙᏓ	0	1	2	3	2
Twgwai	4	5	6	7	3
	8	9	10	11	4
	12	13	14	15	5

14	0	1			
ᏦᎩᏙᏗ	0	1	2	3	2
Twgwo	4	5	6	7	3
	8	9	10	11	4
	12	13	14	15	5

15	0	1			
ᏦᎩᏙᏛ	0	1	2	3	2
Twgwoi	4	5	6	7	3
	8	9	10	11	4
	12	13	14	15	5

13.3.2. Calendar Option 2

Calendar 2 is based on five *twkwe* ‘short-months of 16 total days’ in each of the four seasons. Each *twkwe* is divided into four *twkw* ‘eight-day weeks’ composed of six *tumo* ‘work-days’ and two *twmi* ‘rest-days.

Each season begins with a *twmwe* ‘seasonal festival period’ of eleven *twme* ‘festival days’, except that *Twmwe Tucei* the ‘summer festival’ has one more day in most years, with *Twmei* the ‘leap-day’ added during leap-years.

This produces six-day *twmwo* ‘work-weeks’ with a two-day *twkwo* ‘weekend’; the reward for the relatively long *twkwo* is the long *twmwe* ‘seasonal festivals’, which, in addition to their 11 or 12 *tume* ‘festival days off’, add the *twkwo twmwei* ‘weekend days off’ at either end for a total of 13 or 14 days off four times a year.

13.3.3. Calendar Option 3

Calendar 3, like Calendar 2, is based on five *twkwe* ‘short-months of 16 total days’ in each of the four seasons.

Also like Calendar 2, each *twkwe* is divided into four *twkw* ‘eight-day weeks’ composed of six *twmo* ‘work-days’ and two *twmi* rest-days.

But Calendar 3 “spreads the joy” of the festivals by celebrating only three days at the beginning of each season, distributing the other *twme* ‘festival days’ between each *twkwe*. The Twmei ‘leap-day’ is handled exactly as in Calendar 2.

And like Calendar 2, the *twmwo* ‘work-week’ is six days long, but every second *twkwo* ‘weekend’ is four, rather than only two days long; between seasons, the *twmwe* ‘seasonal festival’ is five days long (six days most summers, seven during leap-years).

This concludes discussion of NN calendars.