Refers to: **Brij's** Home Page at: http://www.brijvij.com/

On Exception & Mean Year Re: Hopkins's Leap Week Calendar
>5:40:400 gives a mean year of 365.2425 days as Gregorian
>5:40:400:20,000 would subtract 7/20,000 from that giving 365.24215 days.
>5:40:400:20,000:200,000 would add 7/200,000 to that giving 365.242185 days as reckoned by Robert.

"My working has been on 128-year base cycle to give: (365+31/128) =365.2421875 days; and its further extension to apply for Leap Weeks on *divide by six(6) with added Keplers' Leap Weeks – when symmetrically placed*. This can be obtained: [3*(7*128)-years/477 LWks] to give:
Mean Year =[7*(52+1/6+29/2688]=365.2421875 days. I developed a 33*27*9=8019-year 'saros' linked to 128-year cycle getting Mean Year=365+31/128 days; also resolving CE 'zero year' BC/AD Era count".
Please, see my distributions of Years from YEAR ZERO +/- 128-year cycle, at:
http://www.brijvij.com/brij8019_ln-yr.pdf

It is the simplicity of Calendar Reform to achieve an *Easiest, Surest and Cheapest* transition between Gregorian to the *New & promising World Calendar for All Ages*. Please also see my:
Distribution for 400-year/71 Leap Weeks as shown at:
http://www.brijvij.com/bb_div.6vshexade400-yr.LWks-distr..pdf
If I had any say in Reform of Gregorian Calendar, I would OPT for *exceptions of Leap Day ONCE every 128-years* as at: http://www.brijvij.com/bbv_Gen8Cal.doc OR alternately resort to Leap Weeks using 3*896-years/477 Leap Weeks that give Mean Year =365.2421875 days".

"My proposal in brief revolves around DUAL use of (24hx100mx100 second) & (24hx100mdx100sd) clocks; and the 364-day World Calendar (with or without Leap Weeks), using LWks or Leap days - to be used as World Peace Weeks/Days - when inserted; retaining the 'general' distribution of days during the years as per Keplers' Planetary Laws & 7-day week cycle. My approach to Reform of the Calendar is to 'satisfy the impacts feared towards COST that may need be incurred' if and when the change need be brought about:

1. No change to 7-day Sabbath cycle;
2. No change to 12/24-hour clock face;
3. No/or minimal change to Gregorian calendar format;
4. No major change to mathematical/trigonometric functions; and
5. To find the most easily adaptable scheme with least possible changes – to get a **surest, easiest and cheapest** transitional proposal, at *'little or NO cost to tax-payer'*.

http://www.brijvij.com/bb_CalRhyme.jpg
http://www.brijvij.com/synposis-n-364d-options.doc
http://homepage.ntlworld.com/calendar.creations/BRIJ'S~2.PPT

My contribution: The Metric Second (1973 April) touched this aspect, to the extent that I suggested a minor correction 'required for the present Length unit - Metre'. If time unit, metric second (sm), and length unit - metre (m) were linked - as I did during 1971-1973; and later modified during 1990's to <http://www.brijvij.com/clockface-n-earth.doc>, there would NEVER have been the dilema that SI-metric Units confront today. It is therefore time that SI-units be granted a fresh look in totality, rather than 'find evasive routes' to divert/delay the ongoing process to Metrication/Decimalisation of Time of the Hour in relation to arc-length on Earth surface - via 36% of SI-atomic second & '1/10^5th of arc-angle Pi/180 (1-degree).

The Gregorian Calendar features 12 months of variable length, between 28 and 31 days each. The month lengths are 31, 28, 31, 30, 31, 30, 31, 31, 30, 31, 30, 31 (and are named ...as we know), except that an extra day is added at the end of the second month (February) every four years, except in century years (1900, 2000, 2100, etc.) OTHER than in years whose number is divisible by 400 (1600, 2000…).
My Gregorian Rhyme Calendar <http://www.brijvij.com/bb_Modified-Cal-fmt.pdf>features 12 months 'generally' retaining Keplers' Planetary Laws, with days between 29 and 31. The month lengths are: 31, 29, 31, 30, 31, 30, 30, 31, 30, 31, 30, 30 (PLUS World Peace Day) as:
Jan:31; Feb:29; Mar:31; Apr:30; May:31; Jun:30
Jul:30; Aug:31; Sep:30; Oct:31; Nov:30; Dec:30

(365th day of Year is World Peace Day, placed after December 30th and before January 1st of NEXT year; Leap Day 'once every 4th year/skipped during 128th years', is however, placed between June 30 & July 01); unless Leap Weeks plan is considered, to account for 1.242189669781 days for the calendar format. Other than my 'Div.6 scheme' for 3*(7*128)=2688-years/477 LWks that result in a Mean Year of 7*(52+1/6 +29/2688 =365.2421875 days; my later working (during 2002) demonstrates 834-years/148 LWks to give, Mean Year value of 7*(52+1/6+9/834) =365.242206235012 days. This definitely is an equally better & closer approximation to actual Vernal Equinox tropical year. A general comparison with other 'discussed calendars' can be seen at:
http://www.brijvij.com/bbv_cal-reform-anewWrld-calendar.pdf
The main objection to calendar reform, as Peter Meyer and Lance Latham point in their (mail 20070129) clearly, is the cost of software conversion, and how the advantages of a new calendar would not be sufficient to justify this cost.

> "Those businesses and other organizations (universities?), who are currently using the ISO 8601 Calendar perceive a benefit. And they don't do it all with pencil and paper, so they have presumably paid programmers to write the necessary software. This could be seen as incremental conversion to a new calendar, since it is not being done all within a year or two. (I am not, however, suggesting that the ISO 8601 Week Calendar is best candidate in the quest for a better calendar)".

May I recall my mail of (Monday, January 22, 2007 12:36 PM) on Descending Order Date Writing & Event Expression? In my approach for A World Calendar for All Ages, I have retained all (or most) parameters already in use and known to the common man. Cost factor is natural to increase by:
(a) delays in adoption;
(b) software's needing more changes; and
(c) the cost of teaching aids, down to common man.
Lance may have his reasons to 'convey' the sense that *calendar reform* is a dead issue since 1930's. If this were so, was there a need to examine the Proposal of World Calendar Association of Elizabeth Achilles that India proposed at United Nations, but United Nations was forced to 'adjourn' the calendar question, UNRESOLVED, by an American VETO - in the hope - there shall be a better proposal in due time'. YES, the impossible situation, to me appear getting resolved; and, we HIS (God's) CHILDREN expect HIM to turn his face away.
QUESTION: Is there a father (among we humns), who may not want his children to outshine him? HE may not want his children to go astray and/or drain his hard earned reputation/resources – BUT a PROUD parent would watch him grow, to see fruits of his achievement.

Cardinal Points:

Since my calendar format does NOT differ much from the Gregorian calendar 2007; *except that July 31st is shifted to February 29th* - the differential shall 'generally fall on the SAME day and may be +/- ONE day' as at: http://scienceworld.wolfram.com/astronomy/TropicalYear.html
Vernal Equinox: [Wednesday, March 20] Wednesday, 2007 March 21/00h: 08m (MJD 2,454,181.0056)
Northern (Summer)Solstice:[Thursday, June 20] Thursday, 2007 June 21/18h: 11m (MJD 2,454,273.7576)
Autumn Equinox: [Sun. Sept.09] Sunday, 2007 September 09/09h: 51m (MJD 2,454,353.4104)
Southern (Winter) Solstice: [Sat. December 22] Sat., 2007 December 22/06h: 09m (MJD 2,454,457.2563).
History of calendar reform has undergone a 400-year period; and without reaching a format for an 'Easiest, Surest and Cheapest' possibility of A World Calendar - like shifting July 31 to February 29.

Do obstacles deter research? What attributes?

All along EXPERTS have talked to overcome 'blank days'. My divide by six(6) plan using [3*(7*128)]-years/(3*159)=477 LWks to get: Mean Year =7*(52+1/6+29/2688)=365.2421875 days. perpetuality of calendar format can be achieved by keeping 'World Peace Day - 365th day) and Leap Sunday - once every four years (except during div.128th years)' OUTSIDE of the calendar format BUT within the year of occurance - to get: Mean Year =(365+31/128)= 365.2421875 days. In the format for Year 2007 Reformed format at my Home Page: http://www.brijvij.com/
the year start is on MONDAY (01) thro Sunday (00/07) in 52 weeks(364-days) of 4 equal quarters (91-

days or 13-weeks) BUT keeping 365th (World Peace Day) & 366th (Leap Sunday) outside of calendar format. There is NO CHANGE to month names for easy & cheapest adaption/adoption by shifting only ONE day July 31st th February 29th; in rhym with known number of days during each month of Gregorian calendar, causing minimal changes to the Gregorian calendar. The name & number of days during 12-months are: Jan:31; Feb:29; Mar:31; Apr:30; May:31; Jun:30 and Leap Sunday (once every four years);
Jul:30; Aug:31; Sep:30; Oct:31; Nov:30; Dec:30 and (365th day of Year is World Day).
I show several IMPORTANT cycles at: http://www.brijvij.com/brij8019_ln-yr.pdf
896-yr/11082 lunation & 2688-yr/33246 lunation with Mean Year =365.24328704511156 days; and 8019-year/99181 lunation with Mean Year =365.24261129817 days.
A pure luni-solar 1021-years/12628 lunation cycle has 372912.275652846401 days (not a multiple of 7-day week cycle) gives Mean Year =372912/1021 =365.241919686582 days – pretty close to my 128-year solar cycle (Mean Year = (365+31/128) days. 1021-year make a good choice [26*19+33+26*19]. Added advantage of my [33*27*9 =8019-year cycle [77*(19+33)+11+77*(33+19)] year distribution; is an improvement over 28*19*15 =7980-year Julian cycle].
Planning Exceptions (Re: Hopkins's Leap Week Calendar), my response dated 2007 Feb. 23 is placed below:

Karl, Robert sirs:

> If one did need to correct the 5:40:400 cycle one could do it by postponing the 400-year exceptions to exceptions by 40 years. This would achieve the same mean year of 365.242185 days if done 9 times in 40,000 years.

If I had any say in Reform of Gregorian Calendar, I would OPT for *exceptions of Leap Day ONCE every 128-years* as at: http://www.brijvij.com/bbv_Gen8Cal.doc OR alternately resort to Leap Weeks using 3*896-years/477 Leap Weeks that give Mean Year =365.2421875 days.
My working has been on 128-year base cycle to give: (365+31/128) =365.2421875 days; and its further extension to apply for Leap Weeks on *divide by six(6) with added Keplers' Leap Weeks - symmetrically placed*. This can be obtained: [3*(7*128)-years/477 LWks] to give:
Mean Year =[7*(52+1/6+29/2688]=365.2421875 days. It is the simplicity of Calendar Reform to achieve an *Easiest, Surest and Cheapest* transition between Gregorian to the *New & promising World Calendar for All Ages*. Please see: http://www.brijvij.com/brij8019_ln-yr.pdf
Distribution for 400-year/71 Leap Weeks is shown at:
http://www.brijvij.com/bb_div.6vshexade400-yr.LWks-distr..pdf

LUNAR Compromise:
Lunar Year =12*29.53058881 =354.36706572 days; Solar Calendar Year =365.242189669781 days. This difference =365.242189669781 − 354.36706572 =10.875123949781 days. In 19-years, these accumulate to 206.627355045839 days (6 lunation 29d 10h.651732460136). Thus, 7-lunation are added ONCE around every (867 days i.e.2y 137d) or during 30^{th}, 59^{th}, 89^{th}, 118^{th}, 147^{th}, 177^{th} and 206^{th} lunation. Thus, during 29^{th} , 57^{th} , 86^{th} , 114^{th} , 143^{rd} , 171^{st} , 200^{th} months, a lunation can be inserted.

My luniSolar calculations revolve around 5*47=235 lunation/19-year solar cycle in relation to *ratio Tithi of 138W/965* - in close relation with ratio 961/960 (inter-conversion between atomic days & ratio tithi). THIS value for a ‘tithi or phase’ is in close approximation with 19-years/6932.5 and/or 235-lunation/ 6932.5; and the 2-hour excess ‘adjusted’ by dropping ONE day in 219-years, as also discussed during my postings to Calndr-L.

This may be interesting to observe that Dark Moon (Amavasya on 2007 February 17^{th} ─ MJD 2454150) falls in line with Hindu Kali Era, 5108 years ago [(133*19+ 18)+18+(133*19+18)], when the new 19-year cycle starts; alongwith introducing the ‘Easiest, Surest & Cheapest Reform of the Gregorian Calendar’, as suggested by me. The table below, may deviate by ‘one or two’ days from actual dates of Dark Moons since NOT attributed to: http://www.brijvij.com/bbv_cal-reform-anewWrld-calendar.pdf

Kindly review this BRIEF exposition for Reform of the Gregorian Calendar, in the light of:
http://www.brijvij.com/bb-ESR_div6-Cal.Reform.pdf

AMAVASYA (DARK MOONS) ─ Gregorian Ninteen Year Cycle (2007 thro 2025)

YEAR	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Jan	19	08	26	15	04	23	11	01/**30**	20	10	28	17	06	24	13	02	21	11	29
Feb	17	07	25	14	03	21	10	X	18	08	26	15	04	23	11	01	20	09	28
Mar	19	07	26	15	04	22	11	01/**30**	20	09	28	17	06	24	13	02	21	10	29
Apr	17	06	25	14	03	21	10	29	18	07	26	16	05	23	12	01/**30**	20	08	27
May	16	05	24	14	03	20	10	28	18	06	25	15	04	22	11	30	19	08	27
Jun	16	03	22	12	01	19	08	27	16	05	24	13	03	21	10	29	18	06	25
July	14	03	22	11	01/**30**	19	08	26	16	04	23	13	02	20	10	28	17	05	24
Aug	12	01/**30**	20	10	29	17	06	25	14	02	21	11	01/**30**	19	08	27	16	04	23
Sep	11	29	18	08	27	16	05	24	13	01	20	09	28	17	07	25	15	03	21
Oct	11	28	18	07	26	15	05	23	13	01/**30**	19	09	28	16	06	25	14	02	21
Nov	09	27	16	06	25	13	03	22	11	29	18	07	26	15	04	23	13	01	20
Dec	09	27	16	05	24	13	03	22	11	29	18	07	26	14	04	23	12	01/**30**	20

Amavasya (Dark Moon) next is on Sunday, 2026 January 18 (CJD 2461059.8276).

BRIJ BHUSHAN VIJ, Author 20070229