Martian Time -- The Craigorian Calendar *Opening Remarks …*

Hello, anyone interested in experiencing life on Mars for any extended period.

I'm Craig Seavey, a creative individual passionate about clarity, agency, and proper truth. I offer this calendar, built for the Martian environment, The Craigorian Calendar: a rigorous, readable, and scalar approach to recognizing the Martian timeline in the same way as the Gregorian Calendar is appropriate to the timeline of Earth.

What I do:

1) Lengthen the Martian second, preserving the intuitive structure of hours and minutes while honoring the longer solar day on Mars.

2) Describe the sol as derived from a Martian second (minutes, hours), establishing minutes and hours from the sol's observed duration, proper Martian time.

3) Identify the natural motions of planet Mars, including solstices, equinoxes, and the apsides—aphelion and perihelion—derived from observation of planetary rhythms.

4) Construct a calendar that respects these proper truths.

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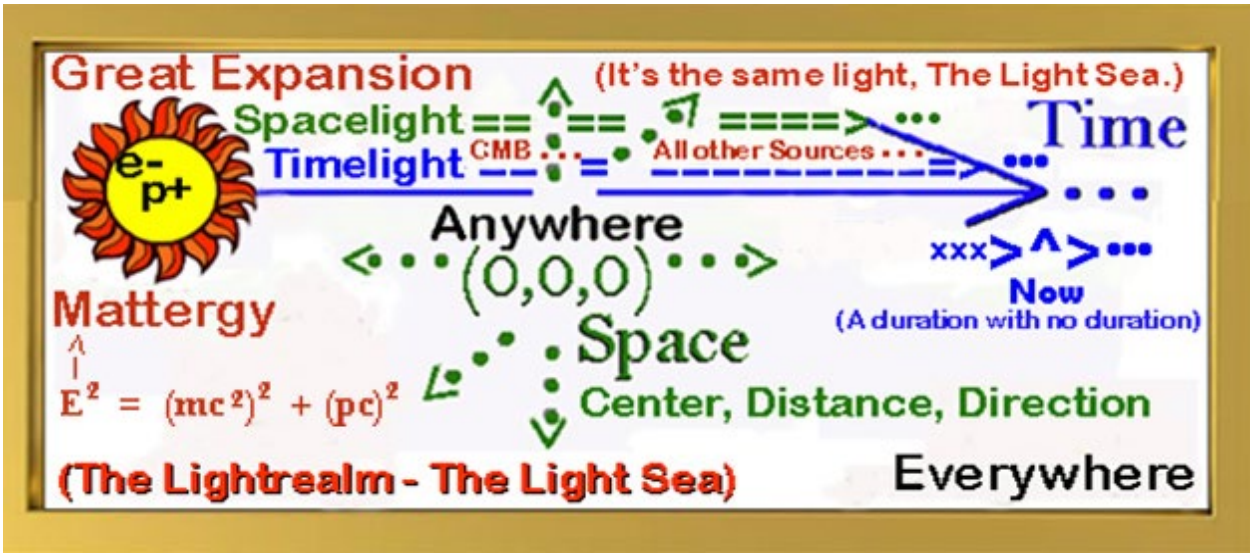
The Craigorian Calendar

<Opening Remarks> ->



The Martian Perspective – Martian Time

Derive:	Martian Sol		Martian Second		Related Terms	
Calendar:	1Mon	2Mon	3Mon	4Mon	5Mon	6Mon
	7Mon	8Mon	9Mon	10Mon	11Mon	12Mon
	13Mon	14Mon	15Mon	16Mon	17Mon	18Mon
	19Mon	20Mon	21Mon	22Mon	23Mon	24Mon
	The Festival of Leaps					
Solstice:	North – Summer South - Winter			North – Winter South -Summer		
Equinox:	North - Spring South - Fall			North – Fall South - Spring		
Apsis:	Perihelion			Aphelion		

Essential Fact: *The Martian Sol.* ^ ->

Concerning The Solar Day: *from the Earthian perspective.*

- A **Martian sol** is approximately **24 hours, 39 minutes, and 35 seconds**, slightly longer than an Earth day.
- A **Martian year**—the time it takes Mars to complete one orbit around the Sun—is about **686.97 Earth days**.
- When you convert those Earth days into Martian sols (by dividing by the sol length in Earth days), you get:

686.97 Earth days / 1.02749125 Earth days per sol = 668.6 sols.

The number of solar days in one full Martian year is 668.59 sols.

Furthermore:

- A **sol** is one full rotation of Mars with respect to the Sun—its **solar day**.
- The length of a sol is approximately **24 hours, 39 minutes, and 35 seconds** (Earth time).
- From Earth's perspective, a sol is nearly equal to an Earth day, but **distinct in duration and planetary identity**.
- The **Martian Sol** is a **recognized interval of motion**, measurable and observed derived from **the ordered turning of Mars through space**, aligned with the **Sun's return to the same apparent position**.
- The Sol, like the Earth day, arises from the **relation of planetary rotation to solar presence**.

Therefore, The Martian Sol is self-evident, observed motion. It's **measure** is the foundation for **Martian chronology** or **civil rhythm**. The Sol is the Now returning in **Martian rotation**—the cadence of Mars made manifest in 60 sec -> 1 hour -> 24 hour form.

NASA and other mission teams often use a **24-hour Martian clock** for local solar time on Mars.

- They **retain the 24-hour format** (00:00 to 23:59), just like on Earth.
- But each **Martian hour, minute, and second is stretched** to match the longer sol:

- 1 Martian hour ≈ **1h 1m 39s Earth time**
- 1 Martian minute ≈ **61.65 Earth seconds**
- 1 Martian second ≈ **1.0275 Earth seconds**

Essential Fact: *Martian Second.* <- ^ ->

Concerning the Division of the Sol:

- The Martian Sol is **1 full rotation** of Mars with respect to the Sun.
- Its length is:

24 hours + 39 minutes + 35 seconds = 88,775 Earth seconds

- We preserve the traditional Earthian subdivision for continuity:

1 Sol = 24 Martian hours = 1,440 Martian minutes = 86,400 Martian seconds

- To convert:

1 Martian second = 88,775 / 86,400 = 1.027491 Earth seconds

- Thus:
- 1 Martian hour ≈ 3,699 Earth seconds (≈ 1h 1m 39s)
  1 Martian minute ≈ 61.65 Earth seconds
- The Martian Second:
  A **Martian sol** is **88,775.244 Earth seconds.**
- That sol is subdivided—like on Earth—into:
  24 Martian hours = 1,440 Martian minutes} = 86,400 Martian seconds.
- To compute the **Martian second**:
  1 Martian second = 88,775.244 / 86,400 = 1.02749125 Earth seconds.
- **1 Martian second ≈ 1.02749125 Earth seconds**
  It is precisely scaled so that **86,400 Martian Seconds are in a Sol.**

Therefore: The Martian Second is the fundamental civil unit of timekeeping on Mars.
It honors Mars's own Sol while preserving the intuitive structure of hours and minutes.
It is not inherited from Earth—it is born from **observation and proportion**.
It is the **beat of Martian rotation**, scaled to human perception.

Essential Glossary: *From one to other.* <- ^ ->

Mars	← Related Terms →	Earth
Kilotok		2 Millenia
Hectotok		2 Centuries
Decatok		2 Decades
Pentatok		Decade
Tok		2 Years
Mon		Month
Tik		Week
Sol		Day

In Common:	Hour
	Minute
	Second

Martian Specific:

Festival of Leaps:	Corrects Celestial Drift
Pentatok:	5 Tok span before the Festival of Leaps
Leaps:	The 3 Sols of the Festival of Leaps

Proper Names:

The Leaps:	1Leap, 2Leap, 3Leap
Sols of theTik:	1Sol, 2Sol, 3Sol, 4Sol, 5Sol, 6Sol, 7Sol
Mons of the Tok:	1Mon, 2Mon, 3Mon, 4Mon, 5Mon, 6Mon, 7Mon, 8Mon, 9Mon, 10Mon, 11Mon, 12Mon, 13Mon, 14Mon, 15Mon, 16Mon, 17Mon, 18Mon, 19Mon, 20Mon, 21Mon, 22Mon, 23Mon, 24Mon

The Craigorian Calendar

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Tok: 1		Mars			1Mon	
1Sol	2Sol	3Sol	4Sol	5Sol	6Sol	7Sol
1 Equinox	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26		

Equinox: North – Spring; South – Fall

The Craigorian Calendar

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Tok: 1		Mars			2Mon	
1Sol	2Sol	3Sol	4Sol	5Sol	6Sol	7Sol
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

The Craigorian Calendar

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Tok: 1		Mars			3Mon	
1Sol	2Sol	3Sol	4Sol	5Sol	6Sol	7Sol
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

The Craigorian Calendar

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Tok: 1		Mars			4Mon	
1Sol	2Sol	3Sol	4Sol	5Sol	6Sol	7Sol
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

The Craigorian Calendar

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Tok: 1		Mars			5Mon	
1Sol	2Sol	3Sol	4Sol	5Sol	6Sol	7Sol
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

The Craigorian Calendar

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Tok: 1		Mars			6Mon	
1Sol	2Sol	3Sol	4Sol	5Sol	6Sol	7Sol
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

The Craigorian Calendar

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Tok: 1		Mars			7Mon	
1Sol	2Sol	3Sol	4Sol	5Sol	6Sol	7Sol
					1 Aphelion	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28 Solstice		

Solstice: North – Summer; South – Winter

The Craigorian Calendar

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Tok: 1		Mars			8Mon	
1Sol	2Sol	3Sol	4Sol	5Sol	6Sol	7Sol
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

The Craigorian Calendar

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Tok: 1		Mars			9Mon	
1Sol	2Sol	3Sol	4Sol	5Sol	6Sol	7Sol
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

The Craigorian Calendar

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Tok: 1		Mars			10Mon	
1Sol	2Sol	3Sol	4Sol	5Sol	6Sol	7Sol
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

The Craigorian Calendar

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Tok: 1		Mars			11Mon	
1Sol	2Sol	3Sol	4Sol	5Sol	6Sol	7Sol
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

The Craigorian Calendar

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Tok: 1		Mars			12Mon	
1Sol	2Sol	3Sol	4Sol	5Sol	6Sol	7Sol
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

The Craigorian Calendar

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Tok: 1		Mars			13Mon	
1Sol	2Sol	3Sol	4Sol	5Sol	6Sol	7Sol
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

The Craigorian Calendar

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Tok: 1		Mars			14Mon	
1Sol	2Sol	3Sol	4Sol	5Sol	6Sol	7Sol
					1	2
3	4	5	6	7	8	9
10 Equinox	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

Equinox: North – Fall; South – Spring

The Craigorian Calendar

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Tok: 1		Mars			15Mon	
1Sol	2Sol	3Sol	4Sol	5Sol	6Sol	7Sol
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

The Craigorian Calendar

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Tok: 1		Mars			16Mon	
1Sol	2Sol	3Sol	4Sol	5Sol	6Sol	7Sol
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

The Craigorian Calendar

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Tok: 1		Mars			17Mon	
1Sol	2Sol	3Sol	4Sol	5Sol	6Sol	7Sol
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

The Craigorian Calendar

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Tok: 1		Mars			18Mon	
1Sol	2Sol	3Sol	4Sol	5Sol	6Sol	7Sol
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

The Craigorian Calendar

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Tok: 1		Mars			19Mon	
1Sol	2Sol	3Sol	4Sol	5Sol	6Sol	7Sol
					1	2
3	4	5 Perihelion	6	7	8	9
10	11	12	13 Solstice	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

Equinox: North – Winter; South – Summer

The Craigorian Calendar

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Tok: 1		Mars			20Mon	
1Sol	2Sol	3Sol	4Sol	5Sol	6Sol	7Sol
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

The Craigorian Calendar

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Tok: 1		Mars			21Mon	
1Sol	2Sol	3Sol	4Sol	5Sol	6Sol	7Sol
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

The Craigorian Calendar

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Tok: 1		Mars			22Mon	
1Sol	2Sol	3Sol	4Sol	5Sol	6Sol	7Sol
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

The Craigorian Calendar

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Tok: 1		Mars			23Mon	
1Sol	2Sol	3Sol	4Sol	5Sol	6Sol	7Sol
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

The Craigorian Calendar

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Tok: 1		Mars			24Mon	
1Sol	2Sol	3Sol	4Sol	5Sol	6Sol	7Sol
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26				

The Craigorian Calendar

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Mars		Festival of Leaps				
1Sol	2Sol	3Sol	4Sol	5Sol	6Sol	7Sol
Last Sol of the prior Pentatok	1Leap	2Leap	3Leap	1 Equinox	2	3...
Last Sol of the prior Decatok			1 Equinox	2	3	4...
Last Sol of the prior Kilotok		1 Equinox	2	3	4	5...

Celestial Drift: The Festival of Leaps is outside of the calendar itself, not part of any tok. The prior pentatok ends, then the festival begins. The next pentatok begins after the festival ends. This example ends the prior pentatok on a 1Sol and begins the next on a 5Sol, 4Sol, or 3Sol depending.

The Rule of Leaps: The actual orbital period of Mars is not 668.6 sols, but 668.59 instead. To correct the discrepancy, the end of a pentatok is usually 3 sols, unless the pentatok is the last of a decatok, then 2 sols, unless the pentatok is the last of a kilotok, then 1 sol.

Equinox: North – Spring; South – Fall