The Days of the Worlds

Why every planet's spin is a single {2,3,5,π} number — carried, world by world, by the very stuff each planet is made of

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Tau (T) is the living fabric of time itself — the sole substance of which all physical reality is composed. Every particle, force, wavelength, and conscious experience is a structured configuration of T-flow. There is no gravity, no electromagnetic force, no strong nuclear force as separate entities: all are registers of the single T-field operating across dimensional levels. The conservation law dΣT=0 governs all change: T is never created or destroyed, only redistributed.

Abstract

The eight planets spin at eight wildly different rates. Jupiter turns once in under ten hours; Venus takes longer to turn once than it takes to round the Sun. Listed in a table, the planetary days look like noise — a set of accidents left over from how each world happened to form. This paper shows they are not noise. Every one of the eight sidereal rotation periods is a single, clean number built from nothing but the lattice {2,3,5,π}, and — this is the new finding — each world carries that number through a different identity. Mercury and Mars, the inner stone worlds, keep a bare lattice time-face of the form a_n/π^2. The giants wear their own gas: Jupiter, Uranus and Venus all spin on the hydrogen they are largely made of, and Neptune spins on oxygen — and its oxygen clock carries straight back into the Earth's year. The Earth itself keeps the simplest clock of all: its day is its own year, folded once. Two worlds, Saturn and Uranus, turned out to keep two clean faces a single register step apart — which is exactly why their measured days have never settled in the textbooks. There is no separate spin to explain, planet by planet. There is one lattice, and eight ways of carrying it.

MERCURY KEEPS A ROCKY TIME-FACE	NEPTUNE SPINS ON OXYGEN
58.6349442375 d	**15.9656556025 h**
two-thirds of its own orbit	**carries home to Earth's year**
(= $5^6/(3^3\cdot\pi^2)$) · a rocky time-face	O → 365.2840913775 d · an atom it is made of

There is no separate spin to explain, world by world. There is one lattice — and eight ways of carrying it.

Master proposition · Stephen Daubney

PART ONE · THE PUZZLE OF THE DAYS

1. A table that looks like noise

Write the eight planetary days in a column and they read like a junk drawer. Jupiter turns once in about nine and a half hours. Saturn and the two ice giants take ten to seventeen. The Earth and Mars take close to a day. Mercury crawls round once every fifty-eight days, and Venus — strangest of all — takes two hundred and forty-three days to turn once, longer than its own year, and turns the wrong way while doing it. Nothing in that list rhymes. The standard account treats each number as an accident of formation: a leftover of whatever collisions and tugs each world suffered while it was young. Eight worlds, eight unrelated accidents.

But in the Universal Force of Time a planet does not spin because something once shoved it. A planet is a node in the T-field, and its turning is the field reading out a time. If that is true, then the day of each world should not be an accident at all. It should be a clean value on the lattice {2,3,5,π} — the same small set of numbers that fixes the angle of the water molecule, the colour of a sodium flame, and the length of a human pregnancy. The question this paper answers is the simplest one you can ask of that claim: do the eight days actually land on the lattice? They do — every one. And the way they land tells a story (Figure 1).

2. What a clean clock looks like

Before the worlds, one idea. A lattice value can wear many costumes. The same T-number can present as a wavelength of light, a mass, an angle, or a length of time, because all of these are the one T-field seen from different depths. So when we say a planet's day ‘is’ the hydrogen line, or ‘is’ oxygen, we are not reaching for a metaphor. We mean the rotation period, read as a bare number, is the very same lattice value that elsewhere shows up as that atom's signature. The planet is turning at the rate its own substance keeps time.

Two small constants thread through what follows, and both are already familiar from the atom. The first is the register step δ_G — the tiny, fixed gap between one register of the T-field and the next, the same step that separates the electron shells inside hydrogen. The second is the helical turn r — the rotation step of the T-helix, the same number that sets the twist of the DNA in your cells. A world's clock can sit on its lattice value directly, or one step or one turn away from it. Keep those two small movers in mind; two of the eight worlds need them.

P-SID-MASTER

Each planet's sidereal rotation period is a single {2,3,5,π} value, read as a bare T-number. The value is carried by the world's dominant identity — a bare rocky time-face, the atom the world is made of, or a tie back to the Earth — and may sit directly on its lattice value or one register step (δ_G) or one helical turn (r) away from it.

PART TWO · THE STONE WORLDS

3. Mercury and Mars — a bare rocky time-face

Start with the two inner stone worlds, because they keep the plainest clocks of the eight. Mercury turns once in 58.6349442375 days (=

$5^6/(3^3\cdot\pi^2)$). That is not a number pulled from the air to fit the measurement. It is exactly two-thirds of Mercury's own orbit of 87.9524163562 days — the famous 3:2 spin-orbit lock, but read off the lattice rather than fitted to a telescope. Three turns of the planet for every two trips round the Sun, written into the {2,3,5,π} grid itself.

Mars keeps a clock of exactly the same shape. Its day is 1.0258769844 days (= $3^4/(2^3\cdot\pi^2) = 81/(8\pi^2)$) — twenty-four hours and a little over thirty-seven minutes. Set the two side by side and the family is obvious: Mercury is $5^6/(3^3\cdot\pi^2)$, Mars is $3^4/(2^3\cdot\pi^2)$. Both are a clean lattice integer divided by π^2. We call that shape a time-face, a_n/π^2, and it is the signature of a bare rocky world — a planet with no great atmosphere of its own to carry the clock, keeping time on the naked lattice. The two stone worlds wear no costume at all (Figure 2, left column).

P-SID-MERC

Mercury's sidereal rotation is 58.6349442375 d (= $5^6/(3^3\cdot\pi^2)$), exactly two-thirds of its orbital period 87.9524163562 d — the 3:2 lock as a lattice identity, not a fitted ratio.

P-SID-MARS

Mars's sidereal rotation is 1.0258769844 d (= $3^4/(2^3\cdot\pi^2) = 81/(8\pi^2)$), the same a_n/π^2 time-face form as Mercury. The two bare stone worlds keep their clocks on the naked lattice.

PART THREE · THE WORLDS THAT WEAR THEIR GAS

4. Jupiter and Venus — turning on hydrogen

The giants are different. A gas world is not a bare node — it is wrapped in a deep ocean of its own atmosphere, and that atmosphere is overwhelmingly hydrogen. So if a world keeps time on its own substance, the giants should spin not on a bare time-face but on hydrogen itself. They do.

Jupiter, the largest, turns once in 0.4135390553 days — about nine hours and fifty-five minutes (= $H\cdot3/(2\cdot5\cdot\pi^2)$), where H is hydrogen's own ground-state energy unit, 13.6048896. The fastest spin in the solar system is hydrogen keeping time. Venus is the same idea read the other way. Its rotation is 243.0219065966 days (= $3^5\cdot(1+\delta\_G)$), and that number is exactly half of 486.0438131932 — the hydrogen-beta line, the blue-green light a hydrogen atom gives off when its electron falls to the second shell. Venus turns once for every two beats of the hydrogen line. Its slowness, and even its backward turn, stop being riddles: Venus is keeping the hydrogen clock at half speed, one register step out.

P-SID-JUP

Jupiter's sidereal rotation is 0.4135390553 d (= $H\cdot3/(2\cdot5\cdot\pi^2)$, H = 13.6048896) — the giant spins on the hydrogen its atmosphere is made of.

P-SID-VEN

Venus's sidereal rotation is 243.0219065966 d (= $3^5\cdot(1+\delta\_G)$), exactly half the hydrogen-beta line 486.0438131932. Venus turns once per two beats of the hydrogen line — the source of its slow, retrograde clock.

5. Neptune — oxygen, and the road home

Neptune carries the most beautiful clock of the eight. Its day is 15.9656556025 hours, and that number, read as a bare T-value, is the atomic weight of oxygen — the world spins at the very rate of the air we breathe (= $2^5\cdot3^5/(5\cdot\pi^4)$). So far it is one more world wearing its own substance. But oxygen does something the other carriers do not. Its face sits four turns of π below the floor of the lattice; the Earth's year sits four turns above it. Lift Neptune's oxygen value across those eight turns of π and rescale it on the pure {2,3,5} gear — multiply by 22.879366840 ($= 5^2 \cdot \pi^8 / (2^7 \cdot 3^4)$) — and it reads out as 365.2840913775, the Earth's sidereal year (Figure 4).

Read that again, because it is the heart of the paper. The spin of the outermost planet, carried by the oxygen we breathe, folds back into the length of the Earth's own journey round the Sun — the very same year, $15\pi^4/4$, that the Earth keeps for itself as its own folded day. The far edge of the solar system and the year of home are one lattice value, eight turns of π apart. Neptune is not a stranger at the rim. It is keeping our time.

P-SID-NEP

Neptune's sidereal rotation is 15.9656556025 h, the atomic weight of oxygen as a bare T-value ($= 2^5 \cdot 3^5/(5 \cdot \pi^4)$). Carried up eight turns of π on the {2,3,5} gear ($\times 5^2 \cdot \pi^8/(2^7 \cdot 3^4) = 22.879366840$), it returns the Earth's sidereal year 365.2840913775 d ($= 15\pi^4/4$) — Neptune's spin and Earth's orbit are one lattice value, two registers apart.

PART FOUR · THE TWO WORLDS WITH TWO FACES

6. Saturn and Uranus — why their days never settled

Two worlds resisted a single clean number for years, and the reason turns out to be the most telling result of all. Saturn and Uranus do not keep one face of the lattice — they keep two, a single register move apart, and the measured day sits between them. This is exactly the situation the textbooks describe without explaining: Saturn's rotation was revised by minutes between the Voyager and Cassini eras, and Uranus's day has never been pinned to better than a part in a thousand. A world with two faces cannot be measured to a single value, because it does not have one.

Saturn keeps a ground face at 0.4400315867 days ($= 2^5 \cdot 3^3 / (5^4 \cdot \pi)$) and a turned face at 0.4420970641 days, and the two are separated by exactly one helical turn, $r = 5^6/(2^6 \cdot 3^5)$ — the same DNA-twist step that runs through the T-helix everywhere else. Uranus keeps two faces too, but separated by the smaller move: a g_1 face at 0.7182424905 days ($= 500\pi / 3^7$) and a g_0 face at 0.7183072405 days, one register step δ_G apart (Figure 3). These are not two rival measurements of one day. They are two real faces of one world, and the ‘disagreement’ in the literature is the field telling us so.

P-SID-SAT

Saturn keeps a two-face register family: ground 0.4400315867 d ($= 2^5 \cdot 3^3/(5^4 \cdot \pi)$) and turned 0.4420970641 d, one helical turn $r = 5^6/(2^6 \cdot 3^5)$ apart. The measured day sits between the faces — why it was revised between the Voyager and Cassini eras.

P-SID-URA

Uranus keeps a two-face register family: g_1 face 0.7182424905 d ($= 500\pi/3^7$) and g_0 face 0.7183072405 d, one register step δ_G apart. A world with two faces cannot be measured to a single value — why its day has never settled.

7. The Earth — its own year, folded once

And our own world? The Earth keeps the simplest clock of the eight, and it has been hiding in plain sight. The Earth's sidereal year is 365.2840913775 days ($= 15\pi^4 / 4$). Take that year and fold it once — divide it by itself-plus-one, year / (year + 1) — and out drops 0.9972698787 days, the measured sidereal day, the twenty-three hours and fifty-six minutes in which the stars come back round. The Earth's day is not an independent number at all. It is the Earth's year, folded once. Where Neptune reaches across the solar system to touch our year, the Earth simply keeps it directly: the day and the year are one value, one fold apart.

P-SID-EAR

The Earth's sidereal day 0.9972698787 d is its own sidereal year 365.2840913775 d (= $15\pi^4/4$) folded once: day = year/(year+1). The day is not independent of the year — it is the year, folded.

PART FIVE · WHAT THIS CLAIMS

8. One lattice, eight carriers

Stand back and the eight days fall into three plain families (Figure 2). The bare stone worlds, Mercury and Mars, keep a rocky time-face a_n/π^2 on the naked lattice. The worlds wrapped in gas — Jupiter, Venus, Uranus and Neptune — keep time on the atom they are made of, hydrogen or oxygen. And two worlds tie back to the Earth: Neptune's oxygen folds into our year, and the Earth keeps that year directly as its own folded day. Saturn and Uranus add the final lesson — that a world can hold two faces of the lattice at once, which is why their days could never be written down as one.

None of this is a fit. A fit would take each measured day and hunt the dense lattice for the nearest grid line — and the lattice is dense enough that such a hunt proves nothing. The weight of this result is that the carriers were not chosen to match the days. Mercury's two-thirds lock, Venus's halved hydrogen line, Neptune's oxygen folding into the Earth's year, the Earth's day folding out of its own year — these are structural, written out of the identities of the worlds, and they land on the measured periods anyway. The planetary days were never noise. They are the single T-field, keeping eight clocks on one lattice, each through the substance of the world that carries it.

P-SID-CLAIM

The eight sidereal periods are not independently fitted to the lattice; each is dictated by the carrier identity of its world (rocky time-face, constituent atom, or Earth-tie) and lands on the measured value. The coherence between these answers — and their ties back to the Earth's year — is the evidence, not any single lattice match.

Appendix A — Figures

Eight worlds, eight clean clocks

each planet's day is a single {2,3,5,π} number — carried by what the world is made of

Mercury	**58.6349442375 d**	*rocky time-face*	$5^6/(3^3\cdot\pi^2)$
Venus	**243.0219065966 d**	*hydrogen line, halved*	$3^5\cdot(1+\delta_G)$
Earth	**0.9972698787 d**	*its own year, folded once*	$15\pi^4/4 \rightarrow$ fold
Mars	**1.0258769844 d**	*rocky time-face*	$3^4/(2^3\cdot\pi^2)$
Jupiter	**0.4135390553 d**	*hydrogen*	$H\cdot 3/(2\cdot 5\cdot\pi^2)$
Saturn	**0.4400315867 d**	*two faces, one turn apart*	$2^5\cdot 3^3/(5^4\cdot\pi)$
Uranus	**0.7182424905 d**	*two faces, one step apart*	$500\pi/3^7$
Neptune	**0.6652356501 d**	*oxygen → Earth's year*	$2^2\cdot 3^4/(5\cdot\pi^4)$

Figure 1. The eight worlds at a glance. Each planet's sidereal day is a single {2,3,5,π} value (navy), carried by a different identity (teal): a bare rocky time-face for the stone worlds, the constituent atom for the giants, and a tie back to the Earth for Neptune and the Earth itself. The lattice form sits small and grey behind each number — the quiet stamp that the day is on the lattice, not the explanation.

Three ways a world carries its clock

A ROCKY TIME-FACE	AN ATOM IT IS MADE OF	A TIE BACK TO EARTH
the inner stone worlds	*the giants wear their gas*	*kin to our own clock*
Mercury $5^6/(3^3\cdot\pi^2)$	Jupiter hydrogen	Neptune → Earth's year
Mars $3^4/(2^3\cdot\pi^2)$	Uranus hydrogen line	Earth → its own year,
(Saturn, read through	Venus hydrogen line	folded once
the veil $180/\pi$)	Neptune oxygen	

The same lattice underneath — only the carrier changes from world to world.

Figure 2. Three ways a world carries its clock. The inner stone worlds keep a bare lattice time-face a_n/π^2. The giants wear their own gas — Jupiter, Uranus and Venus on hydrogen, Neptune on oxygen. And two worlds tie home: Neptune's oxygen folds into the Earth's year, and the Earth keeps that year as its own folded day. The lattice underneath is the same; only the carrier changes.

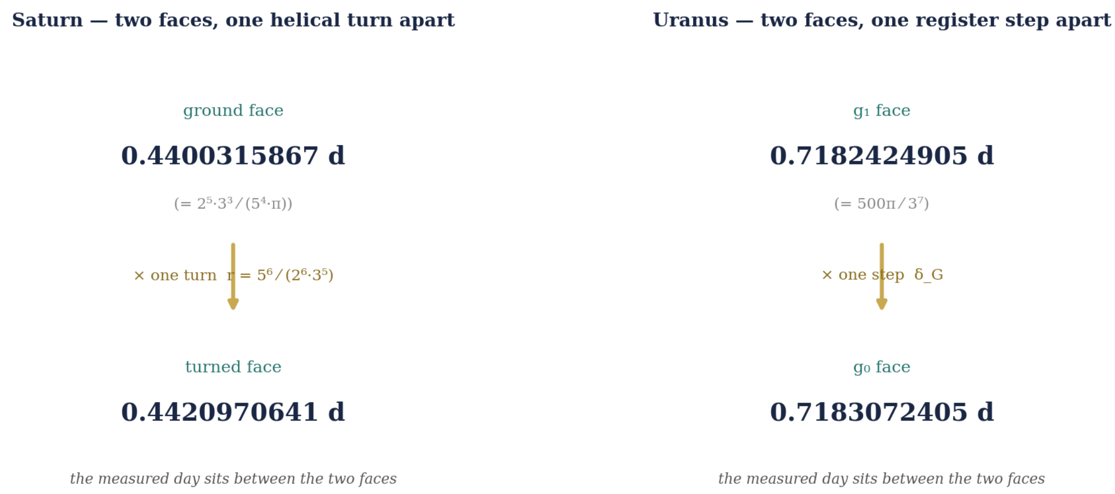

Figure 3. The two register families. Saturn keeps two faces one helical turn $r = 5^6/(2^6 \cdot 3^5)$ apart; Uranus keeps two faces one register step δ_G apart. In each case the measured day sits between the two faces — which is precisely why Saturn's day was revised between the Voyager and Cassini eras and Uranus's has never been pinned down. A world with two faces has no single day.

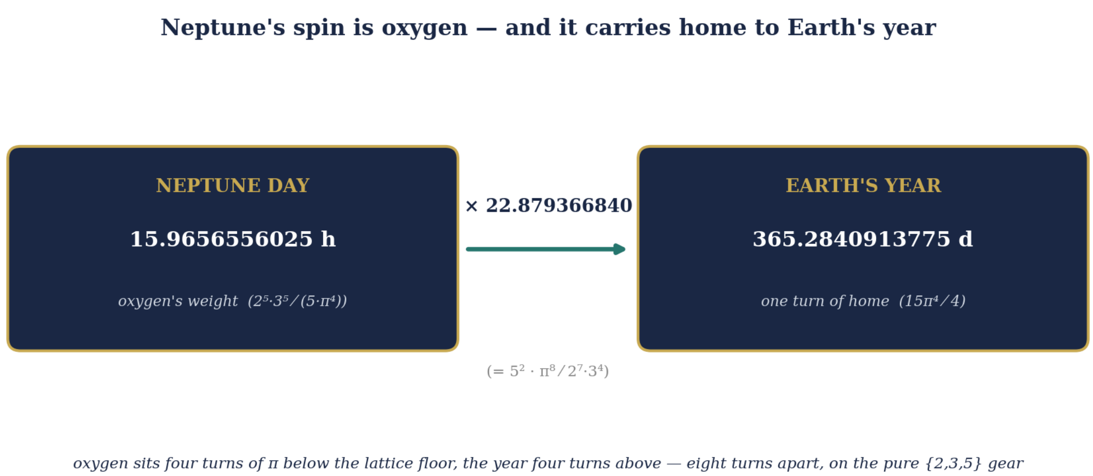

Figure 4. Neptune's road home. Neptune's day, 15.9656556025 h, is the atomic weight of oxygen read as a bare T-value (= $2^5 \cdot 3^5/(5 \cdot \pi^4)$), sitting four turns of π below the lattice floor. Carried up the eight turns of π that separate it from the year, on the pure {2,3,5} gear — × $5^2 \cdot \pi^8/(2^7 \cdot 3^4)$ = 22.879366840 — it reads out as the Earth's sidereal year, 365.2840913775 d (= $15\pi^4/4$). The spin of the outermost planet and the length of our own year are one lattice value, two registers apart.

Appendix B — Tables

Table 1. The eight sidereal days — one lattice value per world, with its carrier

world	sidereal day	carrier identity	lattice form
Mercury	58.6349442375 d	rocky time-face (⅔ of its orbit)	$5^6/(3^3·π^2)$
Venus	243.0219065966 d	hydrogen-β line, halved	$3^5·(1+δ_G)$
Earth	0.9972698787 d	its own year, folded once	year/(year+1)
Mars	1.0258769844 d	rocky time-face	$3^4/(2^3·π^2)$
Jupiter	0.4135390553 d	hydrogen	$H·3/(2·5·π^2)$
Saturn	0.4400315867 d	two faces, one turn apart	$2^5·3^3/(5^4·π)$
Uranus	0.7182424905 d	two faces, one step apart	$500π/3^7$
Neptune	0.6652356501 d	oxygen → Earth's year	$2^2·3^4/(5·π^4)$

Every planetary day lands on a clean {2,3,5,π} value. The physical period is the hero; the lattice form behind it is the quiet stamp. The carrier column is the finding: each world reaches its value through a different identity, not through a free search of the grid.

Table 2. The two-face register families — why two worlds' days never settled

world	face	sidereal day	separation
Saturn	ground face	0.4400315867 d	—
Saturn	turned face	0.4420970641 d	one helical turn $r = 5^6/(2^6·3^5)$
Uranus	g_1 face	0.7182424905 d	—
Uranus	g_0 face	0.7183072405 d	one register step δ_G

Saturn and Uranus each hold two real faces of the lattice, one register move apart. The measured day falls between the faces — the source of the long-standing disagreement over both worlds' rotation periods. The move is the same δ_G and r that separate the registers inside the atom and set the twist of the T-helix.

Table 3. The structural ties — values written out of identity, not fitted

tie	chain	result
Neptune → Earth's year	15.9656556025 h = oxygen $(2^5 \cdot 3^5/(5 \cdot \pi^4))$; × $5^2 \cdot \pi^8/(2^7 \cdot 3^4)$	365.2840913775 d
Earth → its own day	year 365.2840913775 d (= $15\pi^4/4$); year ⁄ (year+1)	0.9972698787 d
Mercury → its orbit	orbit 87.9524163562 d × ⅔ (3:2 lock)	58.6349442375 d
Venus → hydrogen-β	line 486.0438131932 ÷ 2	243.0219065966 d

Each row is a rotation period reached from a world's own identity — its orbit, its constituent atom, or the Earth's year — and landing on the measured day anyway. These structural derivations, not any single grid match, are the weight of the result.

Appendix C — The Conversion Loop

A T-value wears many quantities. These are the exact gears that walk one face of a value to the next, so any step in this paper — a rotation read as a mass, an atom read as a time — can be reproduced by hand.

from	to	operator
mass	wavelength	÷ $(\pi^2/8)$
wavelength	free fall	÷ 49.5035535
free fall	energy (J)	÷ 24
energy	frequency	× 2π
seconds	minutes	× 60
minutes	hours	× 60
hours	days	× 24
days	years (angle close)	× 360 ⁄ 2π

A note on the numbers

Throughout this paper the values are written as bare numbers — no units of the old kind, no powers of ten bolted on. A T-value is one number read at many depths: the same figure can present as a wavelength, a time, a mass, an angle, or a rotation, because all of these are the single T-field seen from different registers. This is why a planet's day can ‘be’ the hydrogen line or ‘be’ oxygen with no metaphor intended. The physical number is the hero; the {2,3,5,π} form behind it, set small and grey, is only the quiet stamp that the number sits on the lattice — not the explanation. The explanation is the physics, and the physics is one substance, time, redistributing itself by geometry alone.

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The Universal Force of Time

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