Three New on One Old

The Trit Tile, the Bronze Mean, the Precession and the Years 2027–2032, Read Through the Vacuum.Net Theory

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Abstract

Two number patterns run through the author's work. The first is the bronze mean. It grows by the rule "three new on one old" and gives the sequence 1, 1, 4, 13, 43, 142. The second is the trit tile. It builds the triangular lattice from three digits: −1, 0 and +1. Both rest on the number 3. This essay asks how the two relate. It then asks what they say about the precession of the Earth's axis and about the years 2027–2032.

The main result is simple. Both patterns obey a rule of the form $x^2 = 3x + c$. Only the treatment of the old term differs. With $c = +1$, the bronze mean, every point closes. This is a known theorem. With $c = −3$, the trit tile, about 31 % of the points never close. Their share does not settle. It swings each time the scale grows by a factor 3. This too is proved.

The first stages of both patterns are equal: 1, 4, 13. They part at the next stage: 43 against 40. The difference is memory. The bronze rule carries the stage two steps back. The trit rule carries only the source. The trit tile also turns by 30 degrees per step. After twelve steps it points the same way again. This mirrors the twelve signs of the zodiac.

The precession itself is a residue that does not close. Each year falls about 20 minutes short against the stars. Read through the Vacuum.Net theory, the passage from Pisces to Aquarius becomes the passage from a two-pole rhythm to full closure. For the coming years the mathematics gives a sober message. A log-periodic process has no end state. It gives a phase, not a destination. The essay separates what is proved, measured, known and read. It also corrects several figures in earlier blog posts.

1. Introduction

Since 2008 the author has returned again and again to one sequence: 1, 1, 4, 13, 43, 142.[1] He calls it the bronze mean. He reads it as the unfolding of the Trinity, as the pattern of the Sri Yantra and as a ladder of cycles in history and in the cosmos.[2]

[1] [4] Konstapel, J. (2008). About Trinity, Ternary Numbers and Last Judgment. constable.blog. [5] Konstapel, J. (2009). About Plato and Harmony (About Harmony and the Trinity). constable.blog, 5 January 2009.

[2] [6] Konstapel, J. (2020). The Simple Geometry of the Big Transformation. constable.blog, 7 December 2020. [7] Konstapel, J. (2025). De Verborgen Boodschap van de Sri Yantra. constable.blog, 3 May 2025.

In November 2026 a second pattern appeared. It is the trit tile: a number system on the triangular lattice with the digits −1, 0 and +1.[3] Its main property is proved. The share of points that never reach zero has no limit. It swings in a fixed rhythm.

Both patterns are built on the number 3. Both grow by “three new” at each step. The question of this essay is therefore direct. What is the relation between the two? And what does that relation say about two themes the author has linked to the bronze mean for years: the precession of the Earth’s axis and the transition he expects in 2027–2032?

The essay is self-contained. Section 2 explains the Vacuum.Net theory. Section 3 describes the bronze mean and the author’s reading of it. Section 4 describes the trit tile. Section 5 gives the core comparison. Sections 6 to 8 treat the rotation, the precession and the coming years. Section 9 lists corrections. Section 10 states the status of each claim.

Four labels are used. **Proved** means a proof is given or cited. **Measured** means a computation that can be repeated. **Known** means a published result of others. **Reading** means an interpretation through the Vacuum.Net theory. A reading may guide work. It is not a theorem.

2. The Vacuum.Net theory in brief

The Vacuum.Net theory starts from movement, not from sets or numbers.[4] There is exactly one strand. It moves and returns. Every distinction is a loop of this strand. Five axioms fix the rules.

- **N1.** There is exactly one strand.
- **N2, closure.** A loop persists only if it closes. What does not close passes on as tension.
- **N3.** The first passage through a point fixes a direction.
- **N4.** The response of the medium depends on its state.
- **N5.** Coarse blocks of the strand obey the same rules again.

Closure is the central idea. It separates what stays from what moves on. This essay is, at bottom, about closure. It asks which structures close completely and which leave a rest.

Each step of the strand is a **trit**. A trit is forward (+1), standing still (0) or backward (−1). A stream of trits can name a place or give a value. This is balanced ternary.

Trits combine into ladders. Two ladders are basic: doubling (×2) and tripling (×3). No power of 2 equals a power of 3. The best near meetings occur at the closure depths 1, 2, 5, 12, 41, 53, 306 and so on. At depth 12 the miss is the Pythagorean comma, $3^{12}/2^{19} \approx 1.0136$.[5] The comma never vanishes. In the theory it is the motor of dynamics: a rest that keeps things moving.[6]

Loops wind at different depths. The theory calls them windings. A body, a cell, a planet and a galaxy are windings at different depths. The same rule applies at every depth. That is why the theory expects the same pattern on every scale.

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[3] [1] Konstapel, J. (2026). The Trit Tile: a reference work on a number system that never settles, version 1.1, 21 November 2026. Constable Research, Leiden. [2] Konstapel, J. (2026). The Sound of the Trit Tile. constable.blog, 21 November 2026.

[4] [3] Konstapel, J. (2026). Vacuum.Net Theory, Ninth Edition: Foundations 9.2 and Physics 9.0. Constable Research, Leiden (constable.blog).

[5] [3] Konstapel, J. (2026). Vacuum.Net Theory, Ninth Edition: Foundations 9.2 and Physics 9.0. Constable Research, Leiden (constable.blog).

[6] [10] Konstapel, J. (2026). Why the Universe Has a Lot of Time. constable.blog, 3 September 2026.

3. The bronze mean

3.1 The mathematics

The metallic means are the positive roots of $x^2 = px + q$.[7] With p = q = 1 one finds the golden mean. With p = 3 and q = 1 one finds the bronze mean:

$$x^2 = 3x + 1, \quad \beta = (3 + \sqrt{13})/2 \approx 3.3028$$

The matching sequence follows the rule $a_n = 3a_{n-1} + a_{n-2}$. Starting from 1, 1 it gives 1, 1, 4, 13, 43, 142, 469, 1549. The ratio of successive terms tends to 3.3028. As a continued fraction the bronze mean is 3 + 1/(3 + 1/(3 + …)): only threes. The golden mean has only ones. **Known.**

The second root is $(3 - \sqrt{13})/2 \approx -0.3028$. Its size is below 1. The product of the two roots is −1. So the bronze mean is a Pisot number and a unit. These two facts matter in Section 5. **Known.**

The bronze mean is not only a number game. In 2017 Dotera, Bekku and Ziherl described a real quasicrystal built on it. Its tiles are equilateral triangles of two sizes and rectangles.[8] **Known.**

3.2 The author's reading, 2008–2026

The author's reading has grown in steps. The main stations are these.

- **2008.** Balanced ternary (−, 0, +) is the most economical number system. It minimises the product of the number of symbols and the word length.[9]
- **2009.** The metallic means are introduced. The bronze mean is called the pattern of the Sri Yantra. Behind the Trinity of the golden mean lies another Trinity. The universe divides into trinities until balance is reached; then the process reverses.[10]
- **2020.** The bronze mean is the expansion pattern of "nothing". Change looks like breathing: contract and expand, written <-.->. The pattern is controlled by the Trinity.[11]
- **2025.** Each term is a stage: the Void (1), the Duality (1), the Four Forces (4), the Zodiac with the Sun in the centre (13), the Kingdom or Sri Yantra (43) and the labyrinth (142). The cycle has four phases: expansion 13 → 43, culmination at 43, contraction 43 → 13, and reorientation 13 → 4 → 1. The present shift runs from a 13-fold, hierarchical order to a 43-fold network order.[12]
- **2025.** The sequence marks stable attractor levels. Letters of old alphabets are named classes of loop configurations.[13]
- **2026.** The rule is summarised as "three new, on one old". Each term carries the memory of the term two steps back. A cosmic ladder of 119 bronze steps spans the scale from the smallest length to the radius of the observable universe. Without the rewinding step the sequence becomes 1, 4, 13, 40, 121, the Sierpiński recursion. The author takes this as evidence that rewinding is essential.[14]

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[7] [14] Spinadel, V. W. de (1999). The family of metallic means. Visual Mathematics 1(3).

[8] [15] Dotera, T., Bekku, S. and Ziherl, P. (2017). Bronze-mean hexagonal quasicrystal. Nature Materials 16, 987–993.

[9] [4] Konstapel, J. (2008). About Trinity, Ternary Numbers and Last Judgment. constable.blog.

[10] [5] Konstapel, J. (2009). About Plato and Harmony (About Harmony and the Trinity). constable.blog, 5 January 2009.

[11] [6] Konstapel, J. (2020). The Simple Geometry of the Big Transformation. constable.blog, 7 December 2020.

[12] [7] Konstapel, J. (2025). De Verborgen Boodschap van de Sri Yantra. constable.blog, 3 May 2025.

[13] [8] Konstapel, J. (2025). The Oldest Source of Knowledge Related with the Newest Physics. constable.blog, 9 November 2025.

[14] [9] Konstapel, J. (2026). De Bronze Mean TiLing van het Heelal. constable.blog, 2 August 2026.

Together these texts give one picture. The bronze mean is the rhythm by which the Trinity unfolds from nothing, reaches balance and folds back. This essay takes that picture as its starting point. **Reading.**

4. The trit tile

4.1 The number system

Take the triangular lattice. Its points are the Eisenstein integers $z = a + b\omega$, where $\omega = (-1 + i\sqrt{3})/2$ is a cube root of one. The base is $\beta = 1 - \omega$. Multiplying by β stretches distances by $\sqrt{3}$ and turns the plane by −30 degrees.[15]

Every point z has a digit d in {−1, 0, +1} such that $z - d$ is divisible by β. One step of the system is:

$$T(z) = (z - d) / \beta$$

Repeat the step. Each step brings the point closer to 0. Every orbit ends in one of three places. It ends in 0, or in one of the two points $+(1 + \omega)$ and $-(1 + \omega)$. The last two turn forever. A point that reaches 0 has a finite trit expansion. A point that ends in a turning point has none. **Proved.**

The finite points form a set U. It is built from 0 by one rule: multiply by β and add a trit. This is literally an unfolding from nothing by threes.

4.2 The theorem

The Vacuum.Net theory asked whether the share of turning points settles. It does not.[16]

Theorem. Let h(N) be the share of lattice points with norm at most N that never reach 0. Then h has no limit. Its lower limit is at most 30.2 %. Its upper limit is at least 31.5 %. **Proved** (computer-assisted, with exact integer counts and the tiling theorem of Lagarias and Wang).[17]

The share repeats exactly each time the norm grows by a factor 3. Measured over one period it swings from about 29.6 % to 32.0 %. Its mean is 30.87 %. Its logarithmic density is 0.3089. **Measured.**[18]

The geometric reason is known. In tilings made by number systems, every point has a finite expansion exactly when the origin lies inside the central tile.[19] In the trit tile the origin lies on the boundary, in a notch. That is why points escape, and why their share oscillates.[20] Oscillations of

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[15] [1] Konstapel, J. (2026). The Trit Tile: a reference work on a number system that never settles, version 1.1, 21 November 2026. Constable Research, Leiden.

[16] [1] Konstapel, J. (2026). The Trit Tile: a reference work on a number system that never settles, version 1.1, 21 November 2026. Constable Research, Leiden. [2] Konstapel, J. (2026). The Sound of the Trit Tile. constable.blog, 21 November 2026.

[17] [1] Konstapel, J. (2026). The Trit Tile: a reference work on a number system that never settles, version 1.1, 21 November 2026. Constable Research, Leiden. [19] Lagarias, J. C. and Wang, Y. (1997). Integral self-affine tiles in R^n, part II: lattice tilings. Journal of Fourier Analysis and Applications 3, 83–102.

[18] [1] Konstapel, J. (2026). The Trit Tile: a reference work on a number system that never settles, version 1.1, 21 November 2026. Constable Research, Leiden.

[19] [17] Akiyama, S. (2002). On the boundary of self affine tilings generated by Pisot numbers. Journal of the Mathematical Society of Japan 54(2), 283–308.

[20] [1] Konstapel, J. (2026). The Trit Tile: a reference work on a number system that never settles, version 1.1, 21 November 2026. Constable Research, Leiden.

this kind are common in digit counting. They go back to Delange (1975).[21] Lapidus explains why one fixed scaling ratio must produce such a rhythm.[22] **Known.**

The certificate should be checked by an independent party before formal publication. The reference work itself says so.[23]

5. One rule, three outcomes

5.1 The same three

The base of the trit tile obeys a quadratic equation. Its trace is $\beta + \bar{\beta} = 3$. Its norm is $\beta \cdot \bar{\beta} = 3$. So:

$$\beta^2 = 3\beta - 3$$

Compare this with the bronze mean, $x^2 = 3x + 1$. Both rules start with "three new": the term 3x. They differ only in what happens to the old term. The bronze rule adds one old. The trit rule subtracts three old. **Proved** (elementary algebra).

This small difference has large effects. The bronze roots are real. The bronze sequence grows in one direction. Its ratio settles at 3.3028. The trit roots are complex. Each step stretches by $\sqrt{3}$ and turns by 30 degrees. There is no fixed direction, and so no fixed ratio.

5.2 The counts

How many finite points does the trit tile have? With at most k digits there are exactly 3^k of them, including 0. The map $z \mapsto -z$ splits the others into two equal halves. Per half the counts are:

$$1, 4, 13, 40, 121, 364, \ldots \quad = \quad (3^k - 1)/2$$

These counts obey $a_k = 3a_{k-1} + 1$. Each stage takes three times the previous stage and adds the source, 1. **Measured** (exact enumeration up to k = 7) **and proved** (the expansions are unique).[24]

Now place the two sequences side by side.

Stage	1	2	3	4	5	6
Bronze mean	1	4	13	43	142	469
Trit tile (per half)	1	4	13	40	121	364
Difference	0	0	0	3	21	105

Table 1. The bronze sequence and the trit-tile counts. They agree up to 13 and part at the fourth stage.

The two agree up to 13. They part at the stage the author calls the Kingdom: 43 against 40. The cause is memory. The bronze rule adds the stage two steps back. The trit rule adds only the source. In the author's words, each bronze term carries the memory of the term two steps back.[25] The trit tile is therefore exactly the branch without rewinding. The Sierpiński numbers 40

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[21] [20] Delange, H. (1975). Sur la fonction sommatoire de la fonction "somme des chiffres". L'Enseignement Mathématique 21, 31–47.

[22] [26] Lapidus, M. L. and van Frankenhuijsen, M. (2013). Fractal Geometry, Complex Dimensions and Zeta Functions, 2nd ed. Springer.

[23] [1] Konstapel, J. (2026). The Trit Tile: a reference work on a number system that never settles, version 1.1, 21 November 2026. Constable Research, Leiden.

[24] [1] Konstapel, J. (2026). The Trit Tile: a reference work on a number system that never settles, version 1.1, 21 November 2026. Constable Research, Leiden. [27] Konstapel, J. (2026). Research notes and script brons.py, 22 November 2026. Constable Research, Leiden (unpublished).

[25] [9] Konstapel, J. (2026). De Bronze Mean TiLing van het Heelal. constable.blog, 2 August 2026.

and 121 that the 2026 tiling post used as a contrast are the counts of the trit tile. **Measured** (the numbers). **Reading** (memory).

5.3 Closure with and without memory

Does the bronze rule close completely? The answer is known. Frougny and Solomyak proved in 1992 that for $\beta^2 = a\beta + b$ with $a \geq b \geq 1$ every number of $Z[\beta]$ that is not negative has a finite expansion.[26] The bronze mean is the case $a = 3$, $b = 1$. So every point closes. Akiyama showed that this property holds exactly when the origin lies inside the central tile.[27] **Known.**

We checked this with exact arithmetic.[28] We tested 400,001 points of the form $a + b\beta$, with β the bronze mean. We used two digit systems: the usual digits 0 to 3, and digits centred on 0, as in the trit tile. In both cases every point closed. The share of open points was 0 on every rung of the ladder. As a control we ran the same code with $x^2 = 3x - 1$. There 300 of 601 points stayed open. So the code does detect open points. **Measured.**

Rule	The old term	Share that stays open	Status
$x^2 = 3x + 1$ (bronze)	one old added	0 %	Proved; measured
$x^2 = 3x - 1$	one old removed	about 50 % in a sample	Measured; limit not checked
$x^2 = 3x - 3$ (trit tile)	three old removed, with turning	swings ≈ 29.6–32.0 %	Proved; measured

Table 2. The same “three new”, three treatments of the old, three outcomes.

Can the bronze mean itself be used as a base on the triangular lattice? No. Its norm is −1. It is a unit. Division by a unit leaves no remainder, so no digit ever appears. The bronze rule lives on the line. In the plane of the trit tile it has no place. **Proved** (elementary).

This gives a clear statement. On the line, “three new on one old” is precisely a rule under which everything closes. In the plane, with turning, a fixed part never closes. Closing and turning exclude each other here. **Proved** for these cases. The general claim is a **reading**.

5.4 Back to the author’s cycle

The author describes a cycle of expansion, balance and contraction back to the source.[29] The trit tile contains both directions. Building U from 0 is the expansion: multiply by β, add a trit. The step T is the contraction: remove a trit, divide by β.

Under contraction about 69 % of the points return to 0, the source. About 31 % never return. They end in two opposite points that turn forever. In the author’s stages this is the second stage, the Duality.

In the bronze case everything returns. The cycle “unfold to balance, then reverse” closes completely only with memory of two steps back. Without that memory a rest remains. The rest becomes a two-pole rhythm. **Reading**, built on proved facts.

The theory has an open question on exactly this point: does a residue that does not close force a two-pole oscillation? The trit tile gives one proved case. The residue ends in two opposite poles, and its share swings in a fixed rhythm. This is a single case, not a general proof.

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[26] [16] Frougny, C. and Solomyak, B. (1992). Finite beta-expansions. Ergodic Theory and Dynamical Systems 12, 713–723.

[27] [17] Akiyama, S. (2002). On the boundary of self affine tilings generated by Pisot numbers. Journal of the Mathematical Society of Japan 54(2), 283–308.

[28] [27] Konstapel, J. (2026). Research notes and script brons.py, 22 November 2026. Constable Research, Leiden (unpublished).

[29] [5] Konstapel, J. (2009). About Plato and Harmony (About Harmony and the Trinity). constable.blog, 5 January 2009. [7] Konstapel, J. (2025). De Verborgen Boodschap van de Sri Yantra. constable.blog, 3 May 2025.

6. Twelve steps around a centre

The base of the trit tile has a simple square: $\beta^2 = -3\omega$. Raising this to the sixth power gives:

$$\beta^{12} = (-3\omega)^6 = 3^6 = 729$$

So after twelve steps the trit tile points in its original direction again. It is then 729 times larger in area. Each step turns by 30 degrees, which is one sign of the zodiac. The turning is clockwise, against the usual positive direction. **Proved** (elementary).

Twelve steps around a centre: this is the author's 13 = 12 + 1, the zodiac with the Sun in the centre.[30] It is also the last stage at which the trit tile and the bronze sequence agree. In the theory, twelve is also the closure depth of the Pythagorean comma.[31] After twelve fifths a small rest remains. After twelve trit steps the direction returns, but the scale does not. **Reading.**

7. The precession as a residue

7.1 What astronomy says

The Earth's axis turns slowly in a cone. This is axial precession. At the present rate one turn takes about 25,772 years.[32] As a result the tropical year, from equinox to equinox, is 1,224.5 seconds shorter than the sidereal year, measured against the stars.[33] The rate is not constant. About 26,000 years is the most precise statement that holds over a full cycle. **Known.**

The traditional value is 25,920 years. It equals 12 × 2,160 and 72 × 360: one degree every 72 years. Seen from the Earth, the equinox moves backward through the zodiac. Each sign takes roughly 2,150 years. The present passage runs from Pisces to Aquarius. **Known** (as convention).

7.2 The author's reading

The author has written about the precession for many years. Its key points are these. The precession runs backward against the yearly zodiac. A new great cycle begins with Aquarius. Aquarius ends the Age of the Fish, the age of good and bad, of duality. The move is from dualism to holism.[34] The 2027 date comes from a division of the cycle into five phases of about 5,144 years, counted from 3117 BCE.[35] **Reading.**

7.3 Three links with the trit tile

The residue. The year does not close against the stars. About 20 minutes remain each year. This rest accumulates into the precession. That is the exact form of axiom N2: what does not close passes on as tension. It is also the form of the comma.[36] **Reading** of a known fact.

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[30] [7] Konstapel, J. (2025). De Verborgen Boodschap van de Sri Yantra. constable.blog, 3 May 2025.

[31] [3] Konstapel, J. (2026). Vacuum.Net Theory, Ninth Edition: Foundations 9.2 and Physics 9.0. Constable Research, Leiden (constable.blog).

[32] [24] Capitaine, N., Wallace, P. T. and Chapront, J. (2003). Expressions for IAU 2000 precession quantities. Astronomy & Astrophysics 412, 567–586. [25] Wikipedia contributors (2026). Axial precession. Wikipedia, accessed 22 November 2026.

[33] [25] Wikipedia contributors (2026). Axial precession. Wikipedia, accessed 22 November 2026.

[34] [6] Konstapel, J. (2020). The Simple Geometry of the Big Transformation. constable.blog, 7 December 2020. [12] Konstapel, J. (2024). History and Future are a Fractal Process. constable.blog, 7 November 2024.

[35] [12] Konstapel, J. (2024). History and Future are a Fractal Process. constable.blog, 7 November 2024.

[36] [3] Konstapel, J. (2026). Vacuum.Net Theory, Ninth Edition: Foundations 9.2 and Physics 9.0. Constable Research, Leiden (constable.blog). [10] Konstapel, J. (2026). Why the Universe Has a Lot of Time. constable.blog, 3 September 2026.

The turning. The trit tile turns 30 degrees per step against the positive direction and returns after twelve steps. The precession moves backward through twelve signs. The trit tile is a backward-turning zodiac in the plane that grows with each round. **Reading.**

The two fishes. The sign of Pisces shows two fishes swimming in opposite directions. In the trit tile the rest that never closes turns forever around two opposite poles. In the bronze case, with memory, everything returns to the source. So the passage from Pisces to Aquarius can be read as the passage from a two-pole rest to full closure. **Reading.** It is offered as an image that the mathematics makes exact. It is not a proof about history.

One limit must be stated. The trit tile contains a twelvefold rotation. It does not contain a fivefold division. The date 2027 rests on the five phases of 5,144 years. That division does not follow from the trit tile or from the bronze mean.

8. The years 2027–2032

8.1 The layer model

In May 2026 the author argued that five cycles converge in 2027–2032: a historical cycle of about 5,143 years, the Kondratiev wave, the Gleissberg solar minimum, the Atlantic Multidecadal Oscillation and a technological cycle.[37] The calculation uses a layer model:

$$T(n) = T_0 \cdot e^{\wedge}(-\alpha\, n), \quad T_0 = 13.8 \text{ billion years}, \ \alpha = 0.755$$

With a coupling factor for technology the model places the activation of layer 18 at about 2031. It then describes two routes. Route A is a hierarchical lock: a few strongly coupled nodes impose an asymmetric order. Route B is a distributed lock: local symmetric pairs synchronise and sustain themselves.[38]

8.2 The layer model is a ladder

In this formula each layer is shorter than the previous one by a fixed factor: e^0.755 ≈ 2.128. That is the same form as the trit tile and the bronze sequence: a fixed ratio per rung. Physicists call it discrete scale invariance. Its signature is a log-periodic oscillation.[39] **Proved** (the arithmetic). **Known** (the concept).

The three ladders differ in their ratio.

Ladder	Ratio per rung	Source
Layer model	2.128 (time)	Section 8.1
Trit tile	3 in norm, √3 in length	Section 4
Bronze mean	3.3028	Section 3
Market crashes (literature)	about 2 (one fit: 2.17)	Drożdż et al.; Sornette

Table 3. Ratios of four discrete-scale ladders.

The ratio of the layer model lies close to the ratios found before market crashes. Drożdż and colleagues report a preferred ratio λ ≈ 2. They note that it agrees with values found in many other complex systems.[40] A sequence of intervals that shrink by a fixed factor runs into a critical

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[37][11] Konstapel, J. (2026). Waarom 2027–2032 cruciaal is voor onze toekomst. constable.blog, 15 May 2026.

[38][11] Konstapel, J. (2026). Waarom 2027–2032 cruciaal is voor onze toekomst. constable.blog, 15 May 2026.

[39][21] Sornette, D. (1998). Discrete scale invariance and complex dimensions. Physics Reports 297, 239–270.

[40][22] Drożdż, S., Ruf, F., Speth, J. and Wójcik, M. (1999). Imprints of log-periodic self-similarity in the stock market. European Physical Journal B 10, 589–593 (arXiv cond-mat/9901025).

time. Johansen, Sornette and Ledoit use exactly this to estimate the date of a crash.[41] The 2031 date of the layer model has the same form. **Known** (the method). Whether α = 0.755 truly matches the market value has not been tested.

8.3 Routes A and B as 13 and 43

Route A has one centre. It is the 13-fold, hierarchical order of the author's Sri Yantra reading. Route B has symmetric pairs without a centre. It is the 43-fold network order.[42] **Reading.**

The trit tile gives a proved example of the Route B pattern. The rest that does not close does not return to the centre. It turns between two opposite poles. That turning is stable. It does not decay and does not settle. A symmetric pair that neither closes nor falls apart is the self-sustaining state that Route B describes. **Reading**, built on a proved fact.

8.4 What the mathematics adds

The mathematics adds three sober points.

- **No end state.** A log-periodic process has no limit. The trit-tile share never settles. Its mean exists only on a logarithmic scale. A cycle forecast built on such a ladder can name a phase. It cannot name a final state.
- **Two kinds of structure.** If a social system behaves like the bronze rule, with memory of two steps back, its cycle closes. If it behaves like the trit tile, a fixed share of about 31 % stays open and becomes a two-pole rhythm. Which of the two applies to society is the real question behind Routes A and B.
- **A test.** The question can be tested. Take historical series of crises, prices or conflicts. Fit a log-periodic model. Compare the fitted ratio with 2.128, 3 and 3.3028. The trit-tile reference work already describes a cycle detector that does this.[43]

9. Corrections to earlier figures

The work for this essay found several slips in earlier blog posts. They are listed here so that later texts can use the correct values.

Where	Stated	Correct
Post of 9 Nov 2025	1, 1, 4, 13, 43, 142, 427, 1285	1, 1, 4, 13, 43, 142, 469, 1549
Sri Yantra post 2025	43 units each split 3 + 1, giving 142	43 × 4 = 172; 142 = 3 × 43 + 13
Posts of 21 May 2026	Bronze mean ≈ 6.162	6.162 = 3 + √10 is the root of $x^2 = 6x + 1$; the bronze mean is 3.3028
Songlines post	Precession / 6.162 ≈ 6,500 years	25,920 / 6.162 = 4,206; 25,920 / 4 = 6,480
Several posts	Precession 25,000 to 25,920 years; climate post 22,700	About 25,772 at the present rate; ~26,000 over a cycle
Layer post	Layer 18 lasts 8,130 years	T(18) ≈ 17,291; T(19) ≈ 8,127 years

Table 4. Corrections. All are arithmetic or reference values; none changes the structure of the argument.

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[41] [23] Johansen, A., Sornette, D. and Ledoit, O. (1999). Predicting financial crashes using discrete scale invariance. Journal of Risk 1(4), 5–32 (arXiv cond-mat/9903321).

[42] [7] Konstapel, J. (2025). De Verborgen Boodschap van de Sri Yantra. constable.blog, 3 May 2025. [11] Konstapel, J. (2026). Waarom 2027–2032 cruciaal is voor onze toekomst. constable.blog, 15 May 2026.

[43] [1] Konstapel, J. (2026). The Trit Tile: a reference work on a number system that never settles, version 1.1, 21 November 2026. Constable Research, Leiden.

10. Status of the claims

Claim	Label	Section
Trit-tile share of open points has no limit; swings with factor 3	Proved	4.2
Mean 30.87 %, logarithmic density 0.3089	Measured	4.2
$\beta^2 = 3\beta - 3$; bronze $x^2 = 3x + 1$: same “three new”	Proved	5.1
Trit counts 1, 4, 13, 40, 121 = $(3^k - 1)/2$	Proved; measured	5.2
Bronze mean: every point closes	Known; measured	5.3
Bronze mean cannot be a base on the triangular lattice	Proved	5.3
Memory of two steps back makes the difference between closing and a rest	Reading	5.2–5.4
$\beta^{12} = 729$: twelve steps around a centre	Proved	6
Precession as a residue that does not close (N2, comma)	Reading of known facts	7.3
Pisces → Aquarius as two-pole rest → full closure	Reading	7.3
Layer model is a discrete-scale ladder with ratio 2.128	Proved (arithmetic)	8.2
Route B has the pattern of the trit-tile rest	Reading	8.3
Date 2027 from five phases of 5,144 years	Not derived here	7.3

Table 5. Status of the main claims.

11. Conclusion

The bronze mean and the trit tile are two answers to one question: what happens when three new are placed on the old? The bronze answer adds the old, with memory of two steps back. Then everything closes. The trit answer removes the old and turns. Then about 31 % never closes. That rest turns between two poles, and its share swings forever with each factor 3.

The two agree for three stages: 1, 4, 13. They part at the fourth. The trit tile is precisely the branch without rewinding that the 2026 tiling post used as a contrast. The claim of that post, that rewinding is essential, now has a mathematical form. Rewinding is what makes full closure possible.

The trit tile turns through twelve steps before its direction returns. The precession turns backward through twelve signs, driven by a yearly residue that does not close. The passage from Pisces to Aquarius can thus be read as a passage from a two-pole rest to closure.

For the years ahead the mathematics advises restraint. A process on a discrete-scale ladder gives a rhythm and a phase, not an end state. The open question is which structure our societies follow: the bronze rule that closes or the trit rule that keeps a rest. That question can be put to data.

Open questions

- Does the share of open points for $x^2 = 3x - 1$ settle, or does it also swing?
- Is there a structure in the plane that combines turning with memory of two steps back, and does it close completely?
- Do historical series show a log-periodic ratio, and is it closer to 2.128, 3 or 3.3028?

- Can the general claim be proved: a residue that does not close forces a two-pole oscillation?

Annotated references

[1] Konstapel, J. (2026). The Trit Tile: a reference work on a number system that never settles, version 1.1, 21 November 2026. Constable Research, Leiden.
Why read: *The source of all trit-tile facts used here: the number system, the theorem, the certificate, the spectrum and the musical readings. Read Parts II and VI first.*

[2] Konstapel, J. (2026). The Sound of the Trit Tile. constable.blog, 21 November 2026.
Why read: *Short public version of the trit-tile result. Useful as an entry point for readers without a mathematical background.*

[3] Konstapel, J. (2026). Vacuum.Net Theory, Ninth Edition: Foundations 9.2 and Physics 9.0. Constable Research, Leiden (constable.blog).
Why read: *The governing statement of the theory: one strand, the five axioms, closure, trits, the two ladders and the closure depths. Read the axioms and the chapter on the ladders.*

[4] Konstapel, J. (2008). About Trinity, Ternary Numbers and Last Judgment. constable.blog.
Why read: *Earliest post in the bronze-mean line. Argues that balanced ternary (−, 0, +) is the most economical way to write numbers.*

[5] Konstapel, J. (2009). About Plato and Harmony (About Harmony and the Trinity). constable.blog, 5 January 2009.
Why read: *First statement of the metallic means $x^2 = px + q$ and of the bronze mean as the pattern of the Sri Yantra. Introduces the cycle of division into trinities until balance, then reversal.*

[6] Konstapel, J. (2020). The Simple Geometry of the Big Transformation. constable.blog, 7 December 2020.
Why read: *Presents the bronze mean as the expansion pattern of "nothing", breathing as <-.->, and links it to the precession cycle.*

[7] Konstapel, J. (2025). De Verborgen Boodschap van de Sri Yantra. constable.blog, 3 May 2025.
Why read: *Dutch. Gives the stage-by-stage reading of 1, 1, 4, 13, 43, 142, the expansion and contraction phases, and the shift from 13-fold hierarchy to 43-fold network. Contains a source table of earlier posts.*

[8] Konstapel, J. (2025). The Oldest Source of Knowledge Related with the Newest Physics. constable.blog, 9 November 2025.
Why read: *Links the bronze sequence to old alphabets, the Sri Yantra and the labyrinth. States the claim that the sequence marks stable attractor levels. Note the arithmetic slip after 142 (Section 9).*

[9] Konstapel, J. (2026). De Bronze Mean TiLing van het Heelal. constable.blog, 2 August 2026.
Why read: *Dutch. The bronze rule as "three new, on one old", the cosmic ladder of 119 steps, Plato's triangles, and the comparison with the Sierpiński recursion (40 and 121 instead of 43 and 142).*

[10] Konstapel, J. (2026). Why the Universe Has a Lot of Time. constable.blog, 3 September 2026.
Why read: *Introduces the comma ($\log_2 3$ is irrational) as the motor of dynamics and the two-layer law. Background for Section 7.*

[11] Konstapel, J. (2026). Waarom 2027–2032 cruciaal is voor onze toekomst. constable.blog, 15 May 2026.
Why read: *Dutch. The layer model $T(n) = T_0 \cdot e^{(-\alpha n)}$, five converging cycles, and the two routes A and B. Built on the 19-layer series, which the author treats as distinct from the Vacuum.Net theory.*

[12] Konstapel, J. (2024). History and Future are a Fractal Process. constable.blog, 7 November 2024.
Why read: *Ties the 2027 date to the Great Year and a division of the precession into five phases of about 5,144 years, counted from 3117 BCE.*

[13] Konstapel, J. (2026). Beyond the Clockwork Universe; and Van Wolk naar Zangspoor. constable.blog, 21 May 2026.
Why read: *Two posts that use a ratio of 6.162 under the name "bronze mean". Section 9 explains why this is a different metallic mean.*

[14] Spinadel, V. W. de (1999). The family of metallic means. Visual Mathematics 1(3).
Why read: *Standard reference for the metallic means. Defines the bronze mean as the positive root of $x^2 - 3x - 1 = 0$.*

[15] Dotera, T., Bekku, S. and Ziherl, P. (2017). Bronze-mean hexagonal quasicrystal. Nature Materials 16, 987–993.

Why read: *Shows a real quasicrystal tiling built on the bronze mean, using triangles of two sizes and rectangles. The physical counterpart of the 2026 tiling post.*

[16] Frougny, C. and Solomyak, B. (1992). Finite beta-expansions. Ergodic Theory and Dynamical Systems 12, 713–723.

Why read: *Proves that for $\beta^2 = a\beta + b$ with $a \geq b \geq 1$ every number of $Z[\beta]$ that is not negative has a finite expansion (property F). The bronze mean is the case $a = 3$, $b = 1$. Key theorem of Section 5.*

[17] Akiyama, S. (2002). On the boundary of self affine tilings generated by Pisot numbers. Journal of the Mathematical Society of Japan 54(2), 283–308.

Why read: *Links property F to geometry: it holds exactly when the origin is an inner point of the central tile. In the trit tile the origin lies on the boundary.*

[18] Akiyama, S. and Scheicher, K. Symmetric shift radix systems and finite expansions. Preprint, University of Tsukuba.

Why read: *Decides finiteness for quadratic bases with digits centred on 0. Shows that the trit-tile base is not canonical, so points that never close must exist.*

[19] Lagarias, J. C. and Wang, Y. (1997). Integral self-affine tiles in R^n, part II: lattice tilings. Journal of Fourier Analysis and Applications 3, 83–102.

Why read: *The tiling theorem on which the trit-tile proof rests.*

[20] Delange, H. (1975). Sur la fonction sommatoire de la fonction “somme des chiffres”. L’Enseignement Mathématique 21, 31–47.

Why read: *The classic case of a digit count that swings periodically in log N. The trit-tile theorem belongs to this family.*

[21] Sornette, D. (1998). Discrete scale invariance and complex dimensions. Physics Reports 297, 239–270.

Why read: *Review of discrete scale invariance and log-periodic oscillation in physics, ruptures, earthquakes and markets. The general frame for Section 8.*

[22] Drożdż, S., Ruf, F., Speth, J. and Wójcik, M. (1999). Imprints of log-periodic self-similarity in the stock market. European Physical Journal B 10, 589–593 (arXiv cond-mat/9901025).

Why read: *Reports a preferred scaling ratio $\lambda \approx 2$ (one fit gives 2.17) before market crashes, consistent with other complex systems. Compare the ratio 2.128 of the layer model.*

[23] Johansen, A., Sornette, D. and Ledoit, O. (1999). Predicting financial crashes using discrete scale invariance. Journal of Risk 1(4), 5–32 (arXiv cond-mat/9903321).

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[24] Capitaine, N., Wallace, P. T. and Chapront, J. (2003). Expressions for IAU 2000 precession quantities. Astronomy & Astrophysics 412, 567–586.

Why read: *Basis of the IAU 2006 precession model. At the current rate the period of axial precession is about 25,772 years; the rate is not constant.*

[25] Wikipedia contributors (2026). Axial precession. Wikipedia, accessed 22 November 2026.

Why read: *Accessible summary of the figures used in Section 7: period of about 25,772 years at the present rate, and a tropical year 1,224.5 seconds shorter than the sidereal year.*

[26] Lapidus, M. L. and van Frankenhuijsen, M. (2013). Fractal Geometry, Complex Dimensions and Zeta Functions, 2nd ed. Springer.

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[27] Konstapel, J. (2026). Research notes and script brons.py, 22 November 2026. Constable Research, Leiden (unpublished).

Why read: *Exact-arithmetic check of closure for the bronze mean (greedy and symmetric digits) and the control case $x^2 = 3x - 1$. Reproduces the counts of Section 5.*