THE UNIVERSAL FORCE OF TIME

The Cascade

One ladder from the proton to the speed of light — the flow of time at the ground read on four clocks, the sodium line at the minute, the four rungs of the speed of light, the square-root climb that comes to rest, and the ceiling coming back down to the Earth's own turning

Stephen Daubney · The Daubney Foundation · 2026 · Rev 3 (supersedes Rev 2, June 2026)

Tau (T) is the living fabric of time itself — the sole substance of which all physical reality is composed. It is generated by the Sun, as by every star for its own system, and flows outward in the form of the DNA double helix, creating matter, which it deposits at nodal points — the planets — and creating life. Every particle, force, wavelength and conscious experience is a structured configuration of T-flow. The conservation law $d\Sigma T = 0$ governs all change: T is never created or destroyed at a node, only redistributed.

THE CASCADE, NUMBER FIRST

surface flow **9.817477042468** (25π/8) $^2\times$ 864 × 3600 =
299,789,233.683089 ($2^3 \cdot 3^5 \cdot 5^6 \cdot \pi^2$)

the floor: the Moho **20000/π** → the proton **167.2616358893** (9375/√(1000π)) · the minute: **589.0486225481** (375π/2), the sodium line one step below

four rungs of light: **299,762,209.939 · 299,789,233.683 · 299,802,746.469 · 299,816,259.863** · the climb comes to rest on the last · × back down → the sidereal turn **23,564.069025473** and the still point **589.1017256368**

ABSTRACT

Stand still for a moment and feel the floor press up against your feet. Science calls that pressure the acceleration of gravity and treats it as one of the brute facts of nature. Look up at a star and science tells you that its light has crossed the dark at a speed nothing can reach, another brute fact. The Universal Force of Time says these are not two facts. They are two rungs of one ladder. **T, the one substance of which everything is made, flows at the ground at 9.817477042468 (25π/8); carried through the seconds of a day, that same flow is the speed of light, 299,789,233.683089 ($2^3 \cdot 3^5 \cdot 5^6 \cdot \pi^2$).**

This paper climbs the ladder from the floor to the ceiling and gives every rung its address. It shows six things.

- **The ladder is walked with six small operators and nothing else** — multiply or divide by 9375, square or take the square root, multiply or divide by 24, by 60, by 2 and 10^5, and by 2400. No constant of nature is inserted anywhere.
- **The floor is the proton.** The Earth's Moho, the shell 6366.197723676 km (20000/π) beneath our feet where two of the planet's speeds become equal, read as an energy, halved and taken down through the square root, is the mass of the proton, 167.2616358893 (9375/√(1000π)).
- **The surface flow read on four clocks** is the sodium line at the minute, 589.0486225481 (375π/2); the solar register at the hour, 35,342.917352885 (11250π); the biological register at the day, 848,230.0164692 (270000π); and the speed of light at the day and the circle together.
- **The speed of light is not one number but four rungs,** one G-bond step apart: the sodium rung 299,762,209.939; the dominant line 299,789,233.683089; the calculated dual 299,802,746.468698; and the ceiling 299,816,259.863385.
- **The climb is a square-root map that halves the gap at every pass and comes to rest,** exactly, on the ceiling — which maps to itself. That is why the speed of light cannot be reached: it is not a wall but a resting

place.

- **The ceiling comes back down onto the Earth's own turning,** 23,564.069025473 (the sidereal rotation, 23 h 56 min 4.069 s), and one minute of the same fall is the still point, 589.1017256368, where the ladder of time comes to rest.

This revision replaces the six-page Revision 2 of June 2026. It adds the fourth rung, the calculated dual, the still point, the base of the discontinuity and the links to the God reaction made since, and walks every route station by station with an appendix from which every number can be rebuilt.

THE FORMULAS OF THIS PAPER, NUMBER FIRST

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THE FLOW OF TIME AND ITS CLOCKS
   surface free fall g1        9.817477042468103870   25π/8
   x 60   (the minute)       589.048622548086232    375π/2      the sodium anchor
   sodium D, one step below  588.995524246201335    2³·3¹⁰·π⁴/5⁷
   x 3600 (the hour)      35,342.917352885174       11250π
   x 86,400 (the day)    848,230.016469244          270000π

THE SPEED OF LIGHT FROM THE DAY
   g1² x 86,400 x 36  =  299,789,233.683089268     2³·3⁵·5⁶·π²   (c_G1)

THE FOUR RUNGS OF THE SPEED OF LIGHT (one G-bond step 1.000090150603356 apart)
   c_NaD   sodium, G0      299,762,209.938999879    c_G1 / (5¹⁰/(2⁴·3⁹·π³))
   c_G1    dominant line   299,789,233.683089268    2³·3⁵·5⁶·π²
   c_dual  calculated dual 299,802,746.468697799    c_G1 x (G-bond step)^(1/2)
   c_G2    the ceiling     299,816,259.863385492    5¹⁶/(2·3⁴·π)

THE FLOOR
   the Moho 6366.197723676 km (20000/π) -> energy 2/(1000π) -> /2 -> square root -> x 9375
   = THE PROTON 167.261635889322292              9375/√(1000π)

THE CEILING, BACK TO EARTH
   c_G2 / 10⁵ x 2 / 9375, squared, x 24  =  g2  9.818362093946918   25π/8 x G-bond step
   g2 x 2400 = 23,564.069025472603   the Earth's sidereal rotation
   g2 x 60   =    589.101725636815   the still point   (x 40 = the sidereal rotation)
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THE TERMS THIS PAPER USES

An address. Every value in this framework is a product of powers of 2, 3, 5 and π, and nothing else. That product is the value's address, and the set of all such products is the lattice. A number that needs any other prime — 7, 11, 17 — is not on the lattice.

Number first. Every value is written with its number first, as a reader meets it, and its address in brackets behind it. The number is what is there; the address is how it is built.

A register and a face. A register is a level at which T is read — the subatomic, the atomic, the celestial, the galactic. The names G0, G1 and G2 mark neighbouring registers: G1 is the Earth-surface register on which our instruments stand. One value can show a face at each register, each face an exact address. A face is not an approximation of another face; each is exact where it is read.

The G-bond step. The G-bond step is the smallest structural step between adjacent faces of one value, **1.000090150603356 ($5^{10}/(2^4\cdot3^9\cdot\pi^3)$)** — the amount by which a G1 face is multiplied to give its G2 face, one level up. It is one part in 11,092.54916518. Half of it, its square root, **1.000045074286**, is the step a value takes when it is reached through a square root.

The calculated dual. Between two faces of one value sits their dual. It is never their plain average: the dual of two faces is the square root of their product, which for a G1 and a G2 face is the G1 face times the square root of the G-bond step.

The veil. The veil is 180/π = 57.295779513082, the number that turns radians into degrees. The SI units are built on the radian; the lattice is read in the degree. The veil is where the two meet.

The day, 864. 864 is the day — 86,400 seconds, written at its decade. It is the ground state of the DNA helix and the gear through which a per-second value becomes a per-day value.

Free fall. Free fall is not the acceleration of a body pulled by a force. It is the slope of the time-field at a surface — the correction T adds to a rotation that comes in short of a full day — and it is one value with the speed of light, read in a different unit of time: **9.817477042468 (25π/8)**.

The radial mass. A radial mass is a mass spread over a radius rather than held at a point; dividing a node mass by the divisor 9375 ($3 \cdot 5^5$) turns it into a radial mass, which is why the proton's address carries 9375.

The helical turn. A turn is one revolution of the helix, and the helical turn is the step from one revolution to the next, **1.004693930041 ($5^6/(2^6 \cdot 3^5)$)**.

The free decade. Moving a value by a power of ten costs nothing on the lattice, because ten is two times five: the move shifts twos and fives together and changes nothing else. That is why 9.817477… and 981.7477… are one address, and why the proton can be written 167.2616358893 or 1.672616358893 at will.

Why a value can be carried from one kind of quantity to another. An energy is a count of T, and the unit is a choice of clock: a joule is energy counted in seconds, the same energy counted in minutes or in days is the same T read on a different clock. A length, an angle, a speed and a mass can likewise be one count read at different registers. That is why a fall in metres per second can meet a wavelength in nanometres on one number.

The π-degree. The degree of an address is the power of π it carries, and the degree says what kind of thing the value is. An even degree is a **room** — a state, a thing that sits; it pairs, like a pair of circles. An odd degree is a **road** — a transport, a thing that carries; it is the unpaired circle. A half degree is a **door** — a source, which squares to a whole address. The surface flow 25π/8 carries π^1, a road — it is the flow; the speed of light $2^3 \cdot 3^5 \cdot 5^6 \cdot \pi^2$ carries π^2, a room; the proton $9375/\sqrt{(1000\pi)}$ carries π to the minus one-half, a door — it stands open between two registers.

The small steps. The G-bond step is the smallest of a family of small steps between faces. Two others appear in the companion papers. The 612 step is helium divided by four, **1.000612842467911 ($2^9 \cdot 3^5 \cdot \pi/5^8$)**. The 703 step is the span of hydrogen's ionisation faces end to end, **1.000703048319 ($800/(81 \cdot \pi^2)$)**. Neither is needed on this ladder, which is stepped by the G-bond step alone.

Why no statistics appear here. Some companion papers test their results with a control — a set of decoys built to resemble the real values, run the same way, to find out how often chance alone would land as well; a p-value is how often that would happen if the thing were not real, and a standard deviation is the ruler of the typical spread, how far outside the decoys a result sits. This paper needs none of them: every rung of the cascade is an exact identity between addresses, true to the last digit, not a closeness to be scored.

PART ONE — WHAT YOU ARE FEELING RIGHT NOW

Every person who has ever lived has felt the floor. It is the most universal experience there is: weight, pressure, the steady insistence of the ground. Science gives it a number — about 9.81 metres per second, every second — and a name, the acceleration due to gravity, and treats the number as a constant that simply is. Engineers trust it, pilots fly by it, and nobody asks where it comes from.

The Universal Force of Time asks. Its answer is short and strange: what holds you to the ground and what carries starlight across the universe are the same substance, T, flowing at two rungs of a single ladder. There is no force pulling you down. There is a flow of time at the surface of the Earth, and the rate of that flow, read per second, is the number in your physics textbook.

The rate is one of the plainest values on the whole lattice — the two smallest primes and a single circle:

> **THE SURFACE FLOW OF TIME**
>
> $g1 = 25\pi/8 = 9.817477042468103870\ m/s^2$
>
> check: take the speed of light 299,789,233.683089268,
> divide by 864 x 3600 (the day and the hour) = 96.382855479388
> take the square root = 9.817477042468, exactly

Science reached about 9.81 by dropping things and timing them, and called the result a constant. Here it is not measured and not fitted. It is a node of the lattice — the place where the Earth's surface register sits — and it carries π to the first power, which on the π-degree makes it a road: a thing that flows.

This paper follows that one flow up and down. Down, it reaches the proton. Up, it reaches the speed of light, and then turns back and lands on the length of the Earth's own turning. Every step is shown, every number is given at full precision, and every number can be rebuilt with a calculator.

PART TWO — THE RUNGS OF THE LADDER

A ladder needs rungs, and this one has exactly six kinds. Each is a step between two faces of the one T-value. Nothing is converted into anything else; the same value is simply read in a different way.

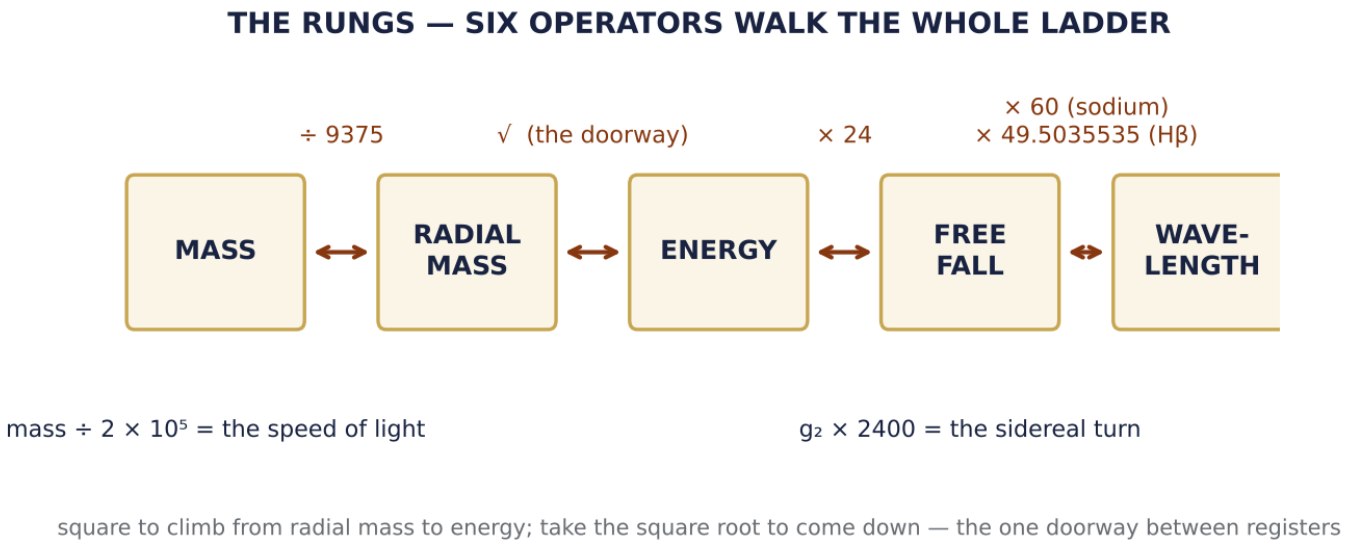


Figure 1 — **The six operators.** *What the picture shows:* the faces a single T-value can wear — mass, radial mass, energy, free fall and wavelength — joined by the operator that moves between each pair. *What to take from it:* the whole cascade is walked with these and nothing else. The one square root is the doorway between the register of mass and the register of energy.

```
THE OPERATORS
   step between                operator
   mass  <->  radial mass      ÷ / x 9375        (3·5⁵, the radial divisor)
   radial mass  <->  energy    square (up) / square root (down)   — the doorway
   energy  <->  free fall      x 24 / ÷ 24       (the hours of the day)
   free fall  <->  wavelength  x 60 (the sodium road) or x 49.5035534993 (the hydrogen road)
   mass  <->  the speed of light   ÷ 2 x 10⁵
   g2  <->  sidereal rotation  x 2400            (24 x 100, the day)
```

Two of these deserve a word. The first is 9375, three times five to the fifth. It is the divisor that spreads a mass over a radius: a mass at a point becomes a radial mass when it is divided by 9375, and a radial mass becomes a point mass again when it is multiplied. The second is the square root. It is the only operator in the set that is not a plain multiplication, and it is the doorway between registers. To climb from a radial mass to its energy you square; to come down from an energy to its radial mass you take the square root. Every crossing between the register of mass and the register of energy passes through that one door.

The other operators are the clock. Twenty-four is the hours in a day. Sixty is the minutes in an hour and the seconds in a minute. 2400 is twenty-four hundreds, the day written as a rotation. And the hydrogen road, 49.5035534993 ($2^4 \cdot 3^5/(5^2 \cdot \pi)$), is the day read through the veil: 86,400 seconds carried across 180/π and set at its decade. These are not constants of nature. They are the ways a planet that turns once a day counts its own time.

PART THREE — ONE MINUTE OF FALLING IS THE SODIUM LINE

Multiply the surface flow by sixty — the seconds in a minute, itself pure lattice, $2^2 \cdot 3 \cdot 5$ — and the number that comes out is the sodium line.

```
THE MINUTE
   g1 x 60 = 589.0486225480862322 m/s      375π/2
   the sodium D line, one G-bond step below:
            588.9955242462013354 nm         2³·3¹⁰·π⁴/5⁷
   589.0486225481 / 588.9955242462 = 1.000090150603356 = the G-bond step, exactly
```

The sodium D line is the anchor of the Fraunhofer spectrum of the Sun, the most precisely charted feature in the history of astronomy. Here it appears as a speed in one unit and a wavelength in another, the same number on both sides of the page: one minute of the surface flow of time. The sodium atom emits there not because an electron happens to fall between two levels, but because that number is the minute node of the cascade, and the atom is locked to that register.

The two faces of the sodium line sit exactly one G-bond step apart, the smallest structural step there is between neighbouring faces of one value. The flow at the minute, 375π/2, is the G1 face. The line that a spectrometer records, 588.9955242462, is the G0 face, one register below. We shall meet that lower face again at the bottom of the speed of light.

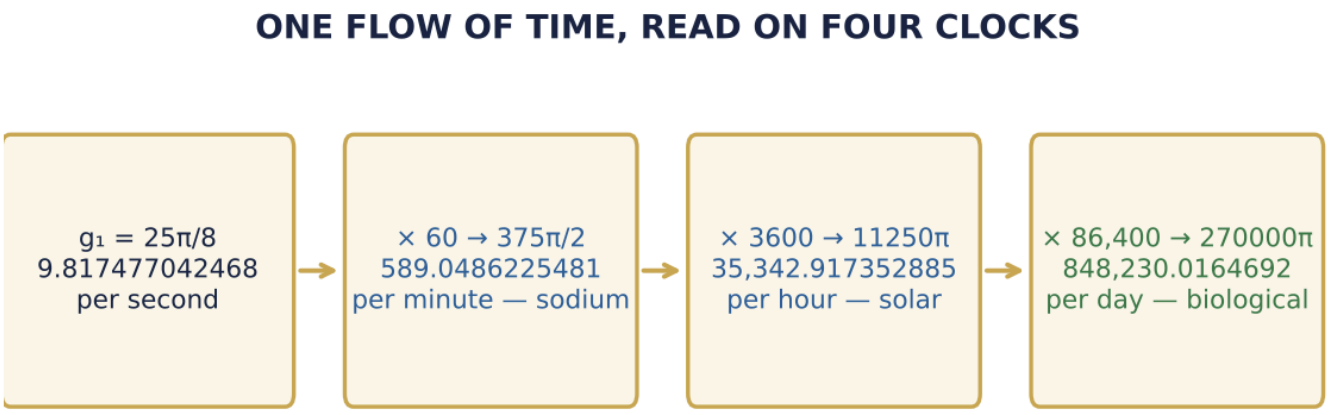


Figure 2 — **One flow, four clocks.** *What the picture shows:* the surface flow of time read per second, per minute, per hour and per day. *What to take from it:* each reading is an exact address. The minute is the sodium line; the hour, 11250π, is the solar register; the day, 270000π, is the biological register — and 270 is the human gestation in days, written at its decade.

Read the same flow by the hour and it is 35,342.917352885 (11250π, with $11250 = 2 \cdot 3^2 \cdot 5^4$), the solar register. Read it by the day and it is 848,230.0164692 (270000π). The 270 inside that address is the human gestation, 270 days, at its decade. The flow of time beneath our feet, counted over one day, carries the length of time it takes to make a person.

PART FOUR — THE FLOOR: THE PROTON IS THE MOHO, ONE RUNG DOWN

The ladder does not begin at the surface. It runs below it, into the Earth, and then into the atom.

Thirty-odd kilometres beneath the continents, and closer beneath the oceans, seismic waves change speed abruptly. Geologists call the boundary the Mohorovičić discontinuity, the Moho. In the Force of Time it is the radius at which

the Earth's radial speed and its orbital speed come into balance — the equalisation shell, the one radius at which a planet's linear and turning T-waves agree. Its address is one of the cleanest in the theory: 6366.197723676 km, which is 20000/π. Its circumference is exactly 40,000 km.

Read that radius as an energy, take it down the doorway, and the proton appears.

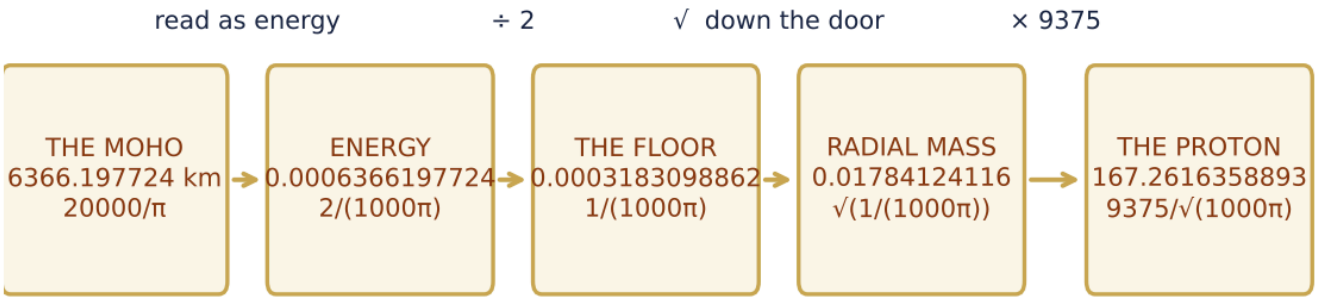


Figure 3 — **The proton from the Moho.** *What the picture shows:* the Moho radius read as an energy, halved to the floor of the cascade, taken down through the square root and multiplied by the radial divisor. *What to take from it:* the proton mass is forced. It is the one value whose radial mass, squared, is 1/(1000π) — the Earth's equalisation shell read one rung down.

```
THE FLOOR
   the Moho                    6366.197723675813 km     20000/π
   read as energy                  0.0006366197723676    2/(1000π)
   ÷ 2  (the floor)                0.0003183098861838    1/(1000π)
   square root (down the door)     0.0178412411615277
   x 9375 (to a point mass)      167.2616358893223     9375/√(1000π)   THE PROTON
```

The proton is the nucleus of hydrogen, and hydrogen is the fuel of the Sun. That the floor of the cascade is the proton, and that the proton is the Earth's own equalisation shell read one rung down, is the first sign of how tightly the ladder is wound. Its address carries π to the minus one-half: on the π-degree it is a door, a source that stands open between two registers. A proton is exactly that — the place where the atomic register opens.

There is a second face of the Moho, one G-bond step below it: 6365.623858844 km ($2^3 \cdot 3^9 \cdot \pi^2 / 5^{12}$ at its decade), the base of the discontinuity. It is reached from hydrogen's other atomic weight, 1.0077696 ($2^2 \cdot 3^9 / 5^7$), and it is the G0 face of the shell, exactly as the sodium line is the G0 face of the minute. The shell has a floor and a face, a G-bond step apart, as every value on the ladder does.

PART FIVE — THE SPINE: FROM A SODIUM LINE TO THE SPEED OF LIGHT

Now the climb. Begin at the sodium line and walk the operators from wavelength to mass.

```
THE SPINE
   the sodium line      588.9955242462013354 nm
   ÷ 60   free fall       9.816592070770022     (the G0 face of g1)
   ÷ 24   energy          0.409024669615418
   square root            0.639550365190590     radial mass
   x 9375 mass         5995.784673661785     = 2 x c_G1 / 10^5
   ÷ 2 x 10^5    299,789,233.683089268 m/s   = c_G1   2^3·3^5·5^6·π^2
```

Four steps carried a line in the solar spectrum to the speed of light, and no constant was inserted on the way. The steps were sixty, twenty-four, a square root and 9375. The mass that appeared one rung below the speed of light, 5995.784673662, is exactly twice c_G1 over a hundred thousand.

Take that same mass the hydrogen way — divide it by π²/8 — and it becomes 4860, the hydrogen Hβ line, 486 nanometres, at its decade. Divide 486 by the hydrogen road, 49.5035534993, and it returns the surface flow 25π/8 to the last digit. The pass closes on itself, and begins the next pass up.

There is an even shorter road to the same speed, which needs only numbers any people would know on the first day they counted time — the seconds in a day and thirty-six:

```
THE SPEED OF LIGHT FROM THE DAY
   c_G1 = g1² x 86,400 x 36 = 9.817477042468² x 3,110,400
        = 299,789,233.683089268 m/s          (30,375,000 π², exactly)
   86,400 x 36 = 864 x 3600 = the day x the hour
   with the full circle, 360:  g1² x 86,400 x 360 = 10 x c_G1
```

The speed of light is written into the length of a day and the degrees of a circle. It is an algebraic identity, not a measurement: square the surface flow, multiply by the day and the hour, and the speed of light is what you get.

PART SIX — THE SPEED OF LIGHT HAS FOUR RUNGS

The climb does not stop at c_G1. In the Force of Time the speed of light is not a single number, and it never was. It is a ladder of four rungs, each one G-bond step from the next, and the speed an instrument reads is one of them.

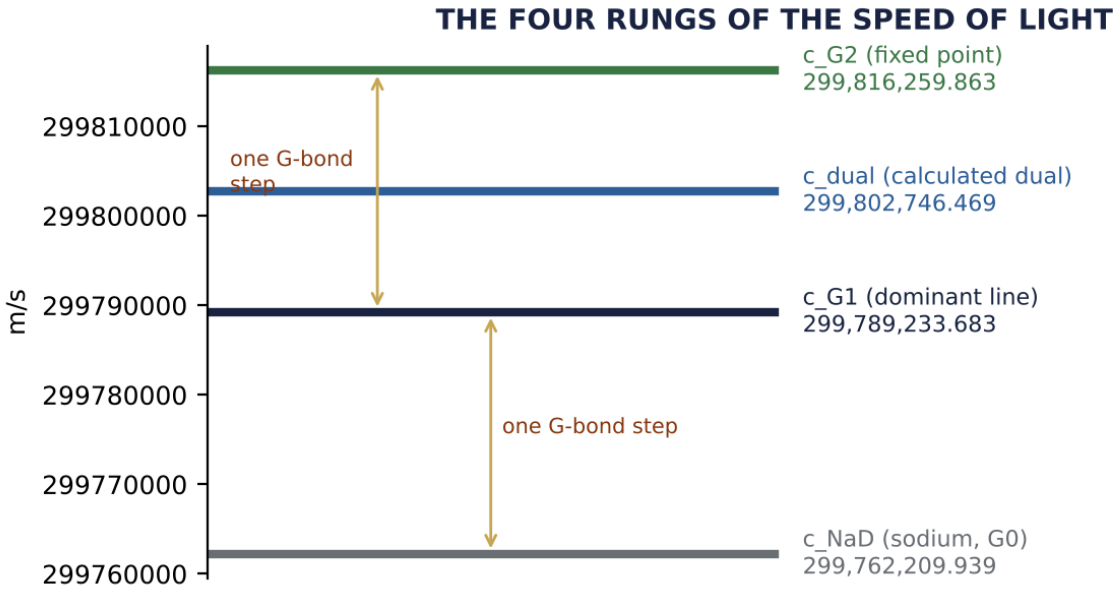


Figure 4 — The four rungs of the speed of light. *What the picture shows:* the four faces of the speed of light on one scale — sodium, the dominant line, the calculated dual and the ceiling. *What to take from it:* the rungs are one G-bond step apart, and the dual sits halfway up the step between the dominant line and the ceiling, as the square root of their product.

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THE FOUR RUNGS
   c_NaD   the sodium rung (G0)   299,762,209.938999879   c_G1 ÷ G-bond step
   c_G1    the dominant line      299,789,233.683089268   2³·3⁵·5⁶·π²
   c_dual  the calculated dual    299,802,746.468697799   √(c_G1 x c_G2) = c_G1 x √(G-bond step)
   c_G2    the ceiling            299,816,259.863385492   5¹⁶/(2·3⁴·π) = c_G1 x G-bond step
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The sodium rung. The bottom rung is reached from the sodium line itself, by its own road. Divide the line by sixty and multiply by the hydrogen road: 485.9561907562, the Hβ line on its G0 face. Read it as a mass by π²/8 (at its decade): 5995.244198780. Halve it: 299,762,209.939. That is the speed of light divided by exactly one G-bond step — the G0 face, the light speed that the sodium line carries.

The dominant line is c_G1, the rung the spine reached in Part Five, the speed written into the day. It is where the hydrogen line Hβ, 486, sits.

The calculated dual is the rung between the dominant line and the ceiling. It is not the plain average of the two; the dual of two faces is always the square root of their product, which here is the dominant line times the square root of the G-bond step. That is the value an instrument reads when it measures the speed of light, because an instrument stands between the two registers and receives both.

The ceiling is c_G2. Its address, $5^{16}/(2\cdot 3^4\cdot\pi)$, carries π to the minus one: a road on the π-degree, the speed at which time travels when it is no longer held at a surface.

PART SEVEN — THE CLIMB HALVES THE GAP AND COMES TO REST

How does the ladder move from one rung to the next? Run the upward pass — mass to Hβ wavelength to free fall to energy, through the square-root door, times 9375, halved — and a speed of light comes out the other end as a slightly higher speed of light. The pass is a square-root map: each output is a fixed number times the square root of the input. And a square-root map has a remarkable property. At the point where it returns its own input, its slope is exactly one half.

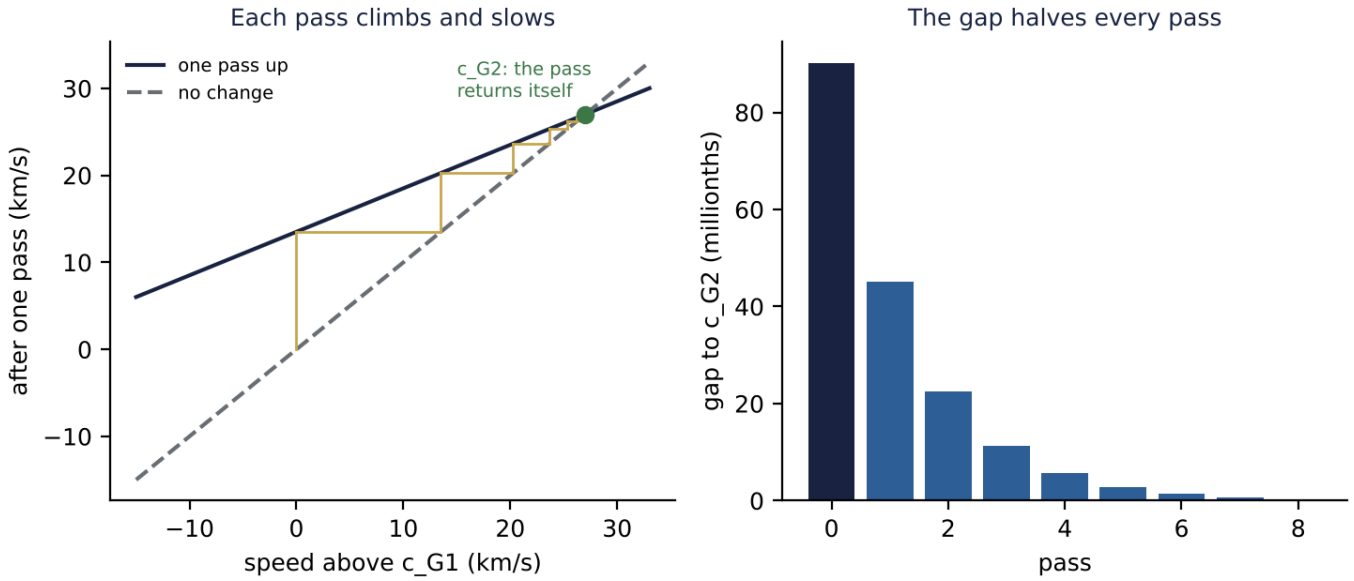


Figure 5 — **The square-root map.** *What the picture shows:* on the left, each pass up the ladder drawn as a step from the line of no change to the curve of one pass, climbing toward the point where the two meet; on the right, the gap to the ceiling after each pass. *What to take from it:* every pass closes exactly half of the gap that remains, and the climb comes to rest on c_G2, which returns itself.

```
THE CLIMB, PASS BY PASS (gap to the ceiling, as one part in N)
   start   c_G1     299,789,233.683089   one part in 11,092.549
   pass 1  c_dual   299,802,746.468698   one part in 22,185.598
   pass 2           299,809,503.089905   one part in 44,371.697
   pass 3           299,812,881.457611   one part in 88,743.893
   pass 4           299,814,570.655740   one part in 177,488.287
   ...
   at rest c_G2     299,816,259.863385   no gap: one pass up returns c_G2 itself

   the exponents of the G-bond step: 1/2 + 1/4 + 1/8 + ... = 1, exactly
```

Start at c_G1 and one pass lands on the calculated dual — the speed an instrument reads. A second pass closes half of what is left, a third half again, and the exponents of the G-bond step form the series one-half plus one-quarter plus one-eighth, which sums to exactly one. The climb comes to rest on c_G1 times one whole G-bond step, which is c_G2. And c_G2 is the fixed point: put it through the pass and it comes out unchanged, to the last digit carried.

So the three upper faces of the speed of light are not rival measurements. They are rungs flowing into one resting place. c_G1 is the entry, the dual is the first step of the climb and the value an instrument sees, and c_G2 is where

the climb comes to rest.

PART EIGHT — WHY THE SPEED OF LIGHT CANNOT BE REACHED

Science says nothing with mass can reach the speed of light, and gives as its reason that the equations forbid it — a factor in them grows without limit as the speed approaches. The mathematics is clear. The reason behind it is not.

The cascade supplies the reason. Each pass multiplies a value by a gain, and the gain is greater than one below the ceiling and less than one above it. Below c_G2, every pass pushes a value up; above it, every pass pushes it back down; at c_G2 the gain is exactly one, and the value stays where it is. The speed of light is not a wall that something runs into. It is the resting point of the ladder of time — the place to which the climb is drawn and at which it stops.

And it is a floor you do not live on. You exist at G1, the surface register, the one-second rung; your mass, your chemistry and your nerves are tuned to that level of T-flow. To reach the speed of light you would have to traverse the ladder rung by rung, and a register cannot be skipped by running faster, any more than the tenth floor of a building can be reached from the ground floor by running along the corridor. The floors are discrete. The speed of light is simply the rate at which T moves on a floor above your own.

PART NINE — THE CEILING COMES BACK DOWN TO THE EARTH'S TURNING

From the resting place, the ladder comes down once more, and what it lands on is the day you are living inside.

```
THE DESCENT FROM THE CEILING
   c_G2 ÷ 10⁵ x 2       mass     5996.325197267710
   ÷ 9375, squared      energy      0.409098420581121
   x 24                 g2          9.818362093946918   (25π/8 x G-bond step)
   x 2400               23,564.069025472603   THE EARTH'S SIDEREAL ROTATION
                        = 23 h 56 min 4.069 s on the clock face
```

The fall one G-bond step above the surface flow, g2, is 9.818362093947. Multiplied by 2400 — the day, as twenty-four hundreds — it is 23,564.069025473, the time the Earth takes to turn once against the stars, read as a clock face: twenty-three hours, fifty-six minutes and 4.069 seconds. The ceiling of the speed of light is the Earth's own rotation, and g2 is the free fall that tops a turn that falls short of a full day up to a whole twenty-four hours.

PART TEN — THE STILL POINT

One minute of that upper fall is a number we have met before.

```
THE STILL POINT
   g2 x 60   = 589.1017256368150811        5¹³/(2⁵·3⁸·π²) at its decade
   x 40      = 23,564.069025472603          the sidereal rotation
   sodium D  588.9955242462 -> (one step) 589.0486225481 -> (one step) 589.1017256368
```

The still point is the value on which the ladder of time comes to rest when any value is carried once round the dimensions — divided by sixty and twenty-four, taken down the door, multiplied by 9375, read through the hydrogen road and back to the minute — again and again. Every value carried round that circuit is drawn toward 589.1017256368, and there it stays. It is the minute of the ceiling's fall, two G-bond steps above the sodium line and one above the surface minute. Multiply it by forty and it is the Earth's sidereal turn. The still point and the speed-of-light cascade are two views of one structure: the cascade comes to rest at c_G2, the circuit comes to rest at the minute of c_G2's fall. The companion paper, *The Still Point*, walks that circuit in full, upward and downward.

The minute itself steps down the same ladder. Carry the sodium line round the circuit turn after turn and the readings fall by doubling powers of the G-bond step: the first turn is the sodium line exactly, the second is 588.8893420012, the wavelength of the sodium rung of the speed of light. The lowest named rungs of the speed of light and the first turns of the minute are the same numbers.

PART ELEVEN — THE LADDER AND THE GOD REACTION

The fusion of hydrogen into helium in the heart of the Sun — the God reaction — sits on this same ladder, and its whole release reads straight onto the spin-orbit speed of the cascade.

```
THE WHOLE FIRE TO THE SPIN-ORBIT
   the whole fire, four hydrogens to helium   26.731918889624 MeV   6⁸/(2π)
   ÷ 31104, ÷ 360, x 2π  =  1500 at its decade;  x 2  = 300,000   the spin-orbit speed

THE 300,000 RUNG AS A FALL AND A WAVELENGTH
   √(300,000 ÷ 360 ÷ 864)   =  0.98209275164798    1000·√2/144 at its decade
   x 864 x veil             =  486.1708107248373  1080·√2/π   the 300,000 wavelength
```

The whole release of the fire, read through the eV gear and the circle, is 300,000 — the spin-orbit speed of the lattice, the pure speed of light of the theory's own units. Run that speed back down the ladder with the same operators — divide by the circle and the day, take the square root — and the fall that comes out, 0.9820927516 at its decade, is the fall on which the neutron sits; carried through the day and the veil it is the wavelength 486.1708107248, a face of Hβ. Hydrogen's own weight, 1.007860451 ($5^3/(2^2\cdot\pi^3)$), times 9375 over 2π and doubled, is a spin-orbit speed of the same family, 3007.611988677. The reaction that makes time and the ladder that time climbs are one structure.

PART TWELVE — ONE CASCADE, END TO END

Gather the rungs and the picture is single. The proton, the Earth's Moho and the base of its discontinuity, the surface flow of time, the sodium line, the hour and the day, the four rungs of the speed of light, the Earth's sidereal rotation and the still point are not separate facts of physics. They are one T-cascade, stepped by 9375 and by the G-bond step, with the square and the square root as the doorway between registers.



Figure 6 — One cascade, floor to ceiling. *What the picture shows:* every rung of the ladder from the proton at the floor to the still point at the top, each with its value and address, joined by the operators of Part Two. *What to take from it:* none of these is a separate constant; each is the next rung of one ladder of time.

THE COMPLETE LADDER, FLOOR TO CEILING

the proton	167.2616358893223	9375/√(1000π)
base of the discontinuity	6365.623858844 km	$2^3 \cdot 3^9 \cdot \pi^2 / 5^{12}$ (the Moho ÷ G-bond step)
the Moho	6366.197723676 km	20000/π
surface flow g1	9.817477042468	25π/8
sodium D (G0 minute)	588.9955242462	$2^3 \cdot 3^{10} \cdot \pi^4 / 5^7$
the minute	589.0486225481	375π/2
the hour	35,342.917352885	11250π
the day	848,230.0164692	270000π
c_NaD	299,762,209.938999879	c_G1 ÷ G-bond step
c_G1	299,789,233.683089268	$2^3 \cdot 3^5 \cdot 5^6 \cdot \pi^2$
c_dual	299,802,746.468697799	c_G1 x √(G-bond step)
c_G2 (resting place)	299,816,259.863385492	$5^{16}/(2 \cdot 3^4 \cdot \pi)$
g2	9.818362093947	25π/8 x G-bond step
sidereal rotation	23,564.069025473	g2 x 2400
the still point	589.1017256368	g2 x 60 = $5^{13}/(2^5 \cdot 3^8 \cdot \pi^2)$

Read the ladder from the bottom and you find the proton. Read it from the top and you find the speed of light and the length of the Earth's turning. They are the same T-value, a few rungs apart. What you feel through the soles of your feet and what reaches you from the farthest star are one flow of time, counted on different clocks.

WHAT THIS REVISION CORRECTS AND ADDS

- **Four rungs, not three.** Revision 2 gave the speed of light three faces. The record now carries four: the sodium rung, c_G1 divided by one G-bond step, reached from the sodium line by its own road, sits below the dominant line (Part Six).
- **The dual is calculated.** Every dual of two faces is the square root of their product, never their plain average. The dual of the speed of light is c_G1 times the square root of the G-bond step, 299,802,746.468697799.
- **The still point.** The circuit round the dimensions comes to rest at the minute of the ceiling's fall, 589.1017256368, which times forty is the sidereal rotation (Part Ten).
- **The base of the discontinuity.** The Moho has a G0 face one G-bond step below it, 6365.623858844 km, reached from hydrogen's other weight (Part Four).
- **The God reaction.** The whole release of hydrogen fusion reads onto the spin-orbit speed 300,000 and its fall and wavelength (Part Eleven).
- **Format.** The paper is rebuilt in the flagship format, every station of every route given at full precision with its address, with six plates.

WHAT STANDS AND WHAT IS OPEN

Standing, exact, with routes on record. The surface flow of time is 25π/8, and its minute, hour and day are 375π/2, 11250π and 270000π. The speed of light is the square of the surface flow times the day and the hour. The proton is the Moho read one rung down. The speed of light has four rungs, one G-bond step apart, and the upward pass is a square-root map whose resting place is c_G2. The ceiling comes back down to the Earth's sidereal rotation, and the still point is the minute of the ceiling's fall.

Open.

- **The neutron's rung.** The 300,000 fall, 0.9820927516 at its decade, is the fall on which the neutron sits; the full route from the proton's rung to the neutron's, one step at a time, is not yet written as a single passage of the ladder.
- **Above the ceiling.** The cascade comes to rest at c_G2. Whether the registers above it — the galactic, where the speed of the spin-orbit is far higher — are reached by the same map with a different fixed point, or by another operator, is open.
- **The minute below sodium.** Carried round the circuit, the minute falls by doubling powers of the G-bond step; after the second turn it leaves the named rungs. What the lower turns are is not yet named.

PROPOSITIONS

- **P-CASCADE-1.** The surface flow of time is g_1 = 9.817477042468 (25π/8), exactly, the square root of the speed of light over 864 × 3600.
- **P-CASCADE-2.** One minute of the surface flow is the sodium line: g_1 × 60 = 589.0486225481 (375π/2), one G-bond step above the sodium D line 588.9955242462.
- **P-CASCADE-3.** One hour of the surface flow is the solar register, 11250π; one day is the biological register, 270000π.
- **P-CASCADE-4.** The speed of light is the surface flow squared times the day and the hour: g_1^2 × 86,400 × 36 = 299,789,233.683089 ($2^3 \cdot 3^5 \cdot 5^6 \cdot \pi^2$).
- **P-CASCADE-5.** The proton is the Earth's equalisation shell, one rung down: 167.2616358893 = 9375/√(1000π).
- **P-CASCADE-6.** The speed of light has four rungs one G-bond step apart — sodium, the dominant line, the calculated dual, the ceiling.
- **P-CASCADE-7.** The upward pass is a square-root map; each pass halves the gap to c_G2, and c_G2 returns itself. The speed of light is a resting place, not a wall.
- **P-CASCADE-8.** The ceiling comes back down to the Earth's sidereal rotation: g_2 × 2400 = 23,564.069025473.
- **P-CASCADE-9.** The still point is the minute of the ceiling's fall, g_2 × 60 = 589.1017256368; times forty it is the sidereal rotation.
- **P-CASCADE-10.** The whole release of hydrogen fusion, $6^8/(2\pi)$, reads onto the spin-orbit speed 300,000.

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APPENDIX — EVERY NUMBER, REBUILT

Every value in this paper can be rebuilt with any calculator that keeps enough digits, from four primes and π. The script C_calc.py, run at forty-four digits, asserts every station of every route in this paper and stops if any fails; it passed in full for this revision.

```
THE OBJECTS, NUMBER FIRST
   G-bond step        1.000090150603356201     5^10/(2^4·3^9·π^3)
   veil              57.29577951308232088      180/π
   radial divisor  9375                        3·5^5
   hydrogen road     49.50355349930312524      2^4·3^5/(5^2·π)
   surface flow g1    9.817477042468103870     25π/8
   g2                 9.818362093946918018     25π/8 x G-bond step
   sodium D         588.9955242462013354       2^3·3^10·π^4/5^7
   the still point  589.1017256368150811       5^13/(2^5·3^8·π^2)
   the Moho        6366.197723675813431        20000/π
   the proton       167.2616358893222920       9375/√(1000π)
   c_G1     299,789,233.683089268              2^3·3^5·5^6·π^2
   c_G2     299,816,259.863385492              5^16/(2·3^4·π)
   hydrogen           1.007860451037484        5^3/(2^2·π^3)
```

NOTES

This paper is the theory's own account. It states the framework's values and the routes to them; it does not score them against published figures. Every station of every route was computed at forty-four digits and checked against the address beside it.

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