THE UNIVERSAL FORCE OF TIME · MEDICINE

The Frequencies of the Mitochondrion

The light only living cells give off — three levels of one address: hydrogen's weight, Mercury's advance and the Moho — with the 2026 finding credited to its discoverers, and the test its lines invite

Stephen Daubney · The Daubney Foundation · 2026 · Rev 2 (supersedes Rev 1: rebuilt in the form of the medical papers — the finding as its discoverers report it, the theory's reading, and the lines offered back for test; the red and terahertz lines that reach the same register printed with their chains; Rev 1's printed steps and roundings corrected)

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 THREE LEVELS, NUMBER FIRST

lower **71.0675578935** · middle **87.0791429696** ($2700/\pi^3$) · upper **103.0692379174** THz ($2^3 \cdot 5^{18}/(3\pi^2)$, decade)

one address — hydrogen's weight on the second register, **1.0078604510** ($5^3/(2^2 \cdot \pi^3)$): on the day, 864, it is the middle level; through Mercury's advance, the lower; through the Balmer limit and the Moho, the upper

on the first register: **71.0611516878 · 87.0712934400 · 103.0506569221** THz — the levels are one set or the other

ABSTRACT

In September 2026 a team in Shanghai — Yu Yang, Zhenglong Gu and Bo Song — reported something that should not exist in a living cell: an infrared note that sounds only while the cell is alive, vanishes the moment the tissue is dried and ground, and belongs to no molecule. They traced it to the mitochondrion, the cell's power station, and found that weak infrared light at the right frequency raised the cell's store of energy by about a tenth, while light at a control frequency did nothing. They described the vibration of the carbon–hydrogen bond in the mitochondrion's folded membranes splitting into three levels, which they labelled **71, 87 and 103 terahertz**. The finding, and the credit for it, are theirs.

This paper reads their finding in the Universal Force of Time, in full. **Part I sets out the mitochondrion as science knows it** — the chain that runs hydrogen to oxygen, the energy books of 36 and 2, the red light that cytochrome c oxidase takes in, the infrared note of the carbon–hydrogen bond — and what the research has found, from the 670 nm light that lifted mitochondrial output in the eye and lowered blood sugar after a meal, to the terahertz light that built new mitochondria and lengthened a life, to the 2026 note itself.

Part II reads it in the theory. The mitochondrion is the register where the flow of time becomes usable power, and the right light, played back to it, lifts its output. All three levels come from one address — hydrogen's weight on the second register, **1.0078604510** [$5^3/(2^2 \cdot \pi^3)$]. On the day, 864, it is the middle level, **87.0791429696 THz** [$2700/\pi^3$]. Taken through Mercury's perihelion advance it is the lower level, **71.0675578935**. Read as the Balmer limit and taken through the Mohorovičić discontinuity it is the upper level, **103.0692379174** [$2^3 \cdot 5^{18}/(3\pi^2)$, decade]. A second set stands one register lower: **71.0611516878, 87.0712934400 and 103.0506569221**. The bond itself is

reached by two chained roads — from the body's temperature node and helium, and from the Earth's sidereal rotation — and three more faces of it run through hydrogen's own Balmer limits. One dimension up, the middle level is Mercury's orbit. Within the red and terahertz light that other groups have shown to act on the mitochondrion, the theory finds exact lines too, each printed with its chain.

Part III offers the lines back. Four candidate sets are set out, each anchored in the theory for its own reason, and a test in six arms is laid out that would show which one the living mitochondrion keeps. The register's fall from the 36 node toward 2 is the shared stage the series reads beneath cancer, lung disease, the fatty liver and Type 2 diabetes; the correction principle is to play the register its own note until it re-seats. Thirty-four propositions, P-MITO-1 to P-MITO-34, are stated. The research groups are credited by name and the lines offered back to them to test; how any light is given is held in the Foundation's clinical reference.

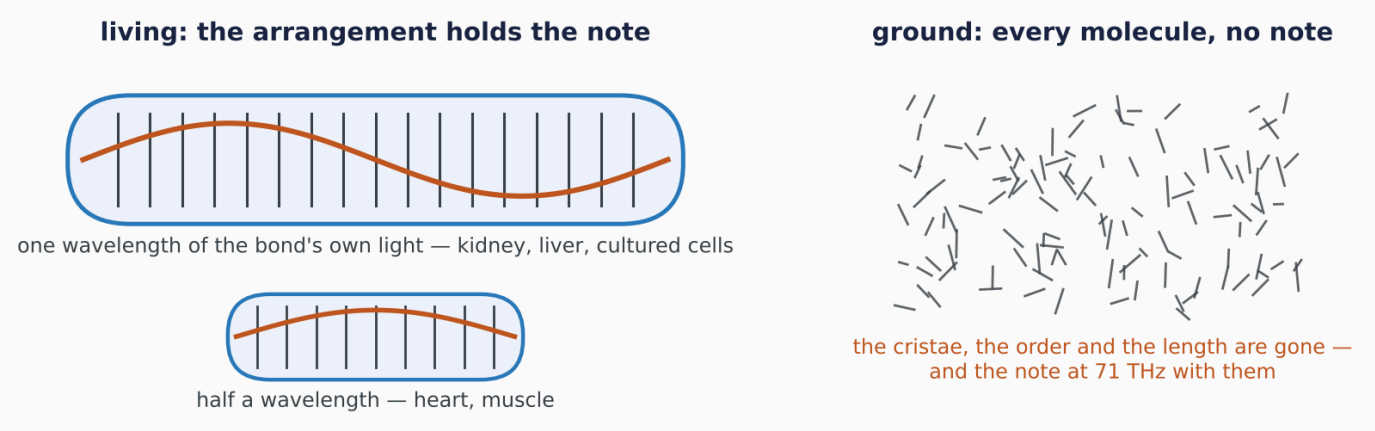


Figure 1 — The note only the living carry. In the living mitochondrion the folded membranes stand in an ordered stack across a rod one wavelength of the bond's own light long, and the light stands in it as a wave; ground to powder, every molecule survives and the note is gone, because the arrangement that held it is gone.

THE TERMS THIS PAPER USES

T, the substance. Tau (T) is the living fabric of time itself, the one substance of which everything is made. It is generated by the Sun and flows outward as the DNA double helix, creating matter and creating life. Everything a body does — a heartbeat, a breath, the holding of its warmth — is T moving in a structured way.

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 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.

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 24 millimetres and 0.024 metres are one address.

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 day, 864. The day is 86,400 seconds [$2^7 \cdot 3^3 \cdot 5^2$], written 864 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.

The time ladder. A rate given per second is carried up the clocks by fixed steps: × 60 to the minute, × 60 to the hour, × 24 to the day. The amount is the same; only the choice of clock changes — the same quantity counted in seconds or counted in days. From the day the orbit is completed one of two ways — × 360 gives the year as a degree value, × 2π gives the year as a radian value. The two answers are two faces of one year, and both are read.

The two gears. Two numbers carry energy between the theory's registers and appear throughout the record. **10,368** [$2^7 \cdot 3^4$] carries an energy in electron-volts to kilojoules per mole. **31,104** [$2^7 \cdot 3^5$] carries an energy in

electron-volts to a circumference. When a quantity of the body lands on one of them, it is speaking in the theory's own units.

The veil. The veil is 180/π = 57.29577951308232, the number that turns radians into degrees. In the Universal Force of Time a wavelength in nanometres is an angle in degrees directly; multiply it by π/180 — cross the veil — and the bare value it carries appears.

The register. A register is a level at which T is read. Each organ of the body is a register — a receiver tuned to one face of the time-field — and each cell, molecule and rhythm within it holds an address on that register.

The six faults. A register can fail six ways. It can be **missed** — its target still exists but it has settled at the wrong place; **demoted** — dropped to a lower order while its parts survive; **frozen** — locked at one address and unable to move; **contaminated** — carrying a foreign address; **misdirected** — its own proof-reader turned against it; or **eroded** — its nodes deleted. Under dΣT = 0 the field redistributes to the nodes that survive; it does not rebuild an address that has gone.

The conversion grammar. One value takes several forms, and fixed steps move it between them: a frequency divided by 2π is a free fall; a free fall times 49.5035535 [7776/(50π)] is a wavelength; a wavelength times π²/8 is a mass. Run in one line, frequency to mass is a single step of 9.72, and every π cancels.

Free fall. In the Universal Force of Time there is no gravity, and a free fall is not a pull. It is the flow of time at a place, in metres per second, every second — time showing itself in one more form, which current science takes for a gravitational fall. A planet makes one turn; where the turn comes in at less than 24 hours, time makes up the difference with a flow at that place, height or depth, so that the turn and the flow together make 24 hours. For the Earth, the free fall on the celestial register, **9.818362093946918** [$5^{12}/(2^7 \cdot 3^9 \cdot \pi^2)$], times 2400 — the 24-hour day, carried two decades — is the Earth's sidereal rotation, **23,564.06902547260** [$5^{14}/(2^2 \cdot 3^8 \cdot \pi^2)$]: 23 hours, 56 minutes and 4 seconds on the clock.

The three registers, G0, G1 and G2. The record reads the same value at more than one level: G1, the surface register of the Earth; G2, the celestial register; G0, the register below. A value and its neighbour one register up — one level up — stand one **G-bond step** apart, 1.000090150603356 [$5^{10}/(2^4 \cdot 3^9 \cdot \pi^3)$].

The 612 step. A second fixed step, 1.000612842467911 [$2^9 \cdot 3^5 \cdot \pi/5^8$] — helium's weight divided by four (helium divided by four, per nucleon), and 36,864 × 864 × π read at its decade. Where a family of lines stands G1, G2 and then one step further, the further step is this one.

The helical turn. The helical turn, 1.004693930041152 [$5^6/(2^6 \cdot 3^5)$], is the step by which the DNA helix climbs one turn — one revolution of the helix. A value carried "one helical turn up" is multiplied by it.

What a landing is worth. Multiply or divide two lattice numbers and the answer is always on the lattice; that much is guaranteed and is not evidence. What counts is a result that lands on a **named object** the theory had already fixed — the day, body temperature, the heartbeat, the day — at a bare power of ten. Each such landing in this paper is marked as arithmetic or as a landing, in its own sentence.

PART I — THE MITOCHONDRION AS SCIENCE KNOWS IT

1. The cell's power station

Almost every cell in the body carries mitochondria — from a handful in some cells to several thousand in a cell of the heart or the liver. Each is a small body with two membranes. The outer one is smooth; the inner one is folded again and again into shelves called **cristae**, which stand across the mitochondrion like the plates of a stack. Mitochondria carry their own small, circular DNA, separate from the DNA in the nucleus and passed down from the mother, and the accepted account is that they began long ago as free-living bacteria taken in by an ancestral cell, which kept them and came to depend on them.

What they do is make the cell's energy currency, **ATP** (adenosine triphosphate). A molecule of ATP carries a packet of usable energy to wherever in the cell work is done — a muscle fibre contracting, a nerve resetting its charge, a gene being copied — and gives it up there. The body makes and spends ATP on an enormous scale: a resting adult turns over something like their own body weight of it each day. Nearly all of it is made in the mitochondria.

2. The chain from hydrogen to oxygen

The mitochondrion's business is hydrogen. The food we eat is broken down until its hydrogen — its electrons and protons — is loaded onto two carrier molecules, **NADH** and **$FADH_2$**. These deliver it to a chain of four large protein complexes set in the folded inner membrane, numbered I to IV. The electrons pass down the chain from complex to complex, and at the last of them, **Complex IV — cytochrome c oxidase** — they are handed to oxygen, which takes on hydrogen and becomes water. That is why we breathe: oxygen is the end of the line.

As the electrons fall down the chain, the complexes use their energy to pump protons across the inner membrane, so that one side becomes crowded with them. The protons flow back through a fifth machine, **ATP synthase**, which turns like a turbine as they pass and builds ATP with each turn. The cristae exist to give this machinery room: the more folded the inner membrane, the more chains and turbines a mitochondrion can hold.

3. The energy books — 36 and 2

Burned fully, with oxygen, through the chain, one molecule of glucose yields in the textbook count up to **36** molecules of ATP. Burned without oxygen, by fermentation alone, it yields **2**. The difference is the difference between a cell that is fully powered and one living on its emergency supply. Otto Warburg found, and set out in 1956, that cancer cells ferment glucose even when oxygen is plentiful — they fall back on the 2 when the 36 is available — and a similar turn away from the mitochondrion has since been described in other long illnesses — of the lung, the kidney and the liver, and in Type 2 diabetes.

4. The light the mitochondrion takes in

Cytochrome c oxidase, the last complex of the chain, absorbs red and near-infrared light. Tiina Karu's work at the Russian Academy of Sciences identified it as the cell's main receiver of that light, and showed that light it absorbs raises the cell's energy output. The practice of shining red and near-infrared light on tissue to help it heal — **photobiomodulation** — rests on this. Its results are real but uneven, and much depends on the wavelength, the dose and the timing.

5. The note of the carbon–hydrogen bond

Every chemical bond vibrates, and every vibration has its own frequency. Shine infrared light through a material and each bond takes in light at its own frequency, leaving a dark line in the spectrum; the pattern of lines is the material's fingerprint, and that is how chemists identify molecules. Infrared frequencies are usually quoted as **wavenumbers** — the number of waves in a centimetre, written cm^{-1} — and a wavenumber multiplied by the speed of light is the frequency in vibrations per second.

The long fatty chains that make up cell membranes are built of carbon and hydrogen, and the stretching of their carbon–hydrogen bonds sounds near **2,900 cm^{-1}** — about **87 terahertz** (87 million million vibrations a second). Water and protein absorb strongly a little higher, near 3,300 to 3,400 cm^{-1} — around 100 terahertz — and anything sounding there is drowned out. Lower, around 2,400 cm^{-1}, there is a quiet window where the body's molecules are almost silent.

6. What the research has found

These are the results as the research groups reported them; the credit for each is theirs.

670 nm light and the mitochondrion — London. Glen Jeffery's group at University College London has shown red light at **670 nm** improving colour vision in older people for a week after a single short exposure, an effect they tie to enhanced mitochondrial function; it worked when given in the morning and not at noon (*Scientific Reports*, 2021). Michael Powner and Glen Jeffery then gave healthy adults a short exposure to 670 nm light before a glucose drink: the rise in blood sugar afterwards was lower, and its peak lower, which they read as the light raising mitochondrial energy production so that the body draws glucose from the blood to fill it (*Journal of Biophotonics*, 2024).

34.5 THz — Xi'an. F. Wu, Z. Zhu and colleagues found that light at **34.5 terahertz** made living cells build new mitochondria and raised their energy output, while light at 36.1 THz did nothing (*ACS Nano*, 2026).

34.1 THz — Shanghai. C. Shao, Bo Song and colleagues found that light at **34.1 terahertz** lengthened the life of a living organism by about sixty per cent and held its ATP up in old age (*bioRxiv*, 2026).

The note only the living carry — Shanghai. Then, in September 2026, Yu Yang, Zhenglong Gu and Bo Song reported the finding this paper is about. They measured the infrared spectrum of human kidney cells grown in the laboratory and of fresh mouse kidney, liver, heart and skeletal muscle, and compared each with the same material

dried and ground. Most of the spectrum was the same in both — the familiar notes of proteins and of the fatty chains. But near **71 THz**, in the quiet window where the body's molecules are almost silent, the living samples carried a note and the ground samples did not. Mitochondria taken out of the cells and measured on their own carried it too.

Under the microscope, the working mitochondria were rods of a strikingly uniform length, with the cristae standing in an ordered stack and the fatty chains in them lying parallel; in kidney, liver and the cultured cells the length of the rod matched one wavelength of the carbon–hydrogen bond's own infrared light, measured inside the mitochondrion, and in heart and muscle the rods were half as long. From this they built a model: the light the bonds give off is held in the rod and taken back in, bond and light lock together, and the single bond vibration at about **87 THz** splits into two new levels — one below it, near **71 THz**, which is the note they saw, and one above it, near **103 THz**, which falls where water and protein drown it out.

Then they tested it. They shone very weak infrared light on living cells for ten minutes and measured the cells' store of ATP. Light at **71 THz** raised it by about a tenth; light at **87 THz**, the bond's own level, did the same; light at **53.7 THz** did nothing. That last arm was the control — light given in exactly the same way, at a frequency away from both levels, to find out whether any infrared light at all would raise the store; it did not. Their work was posted as a preprint and has not yet been through peer review (*bioRxiv*, 2026).

That is the mitochondrion as science knows it, given in full because what follows reads every part.

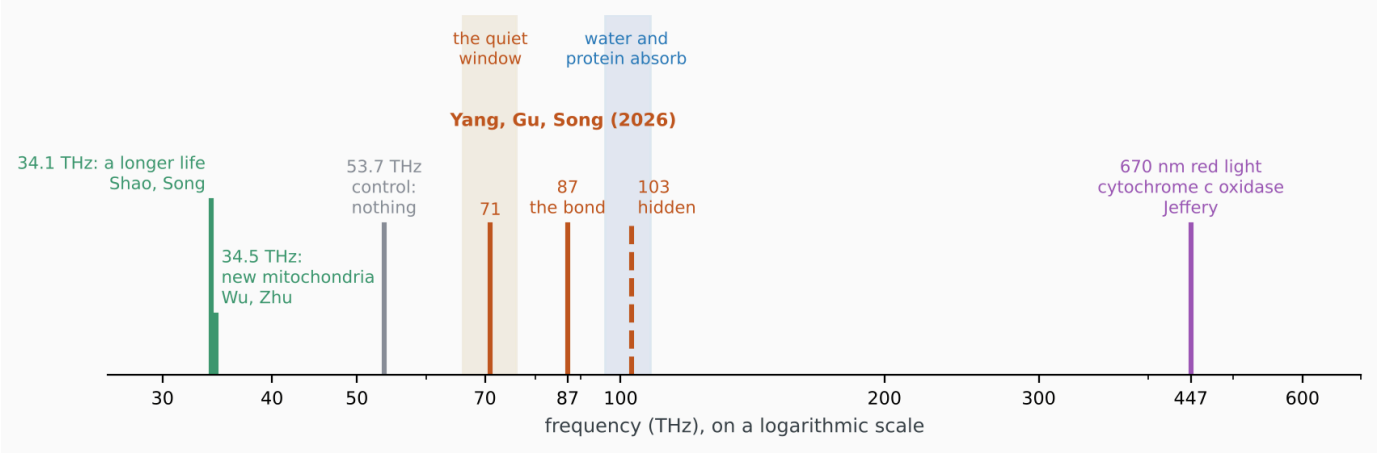


Figure 2 — What the research has found, on one line of frequency: the red light at 670 nm that cytochrome c oxidase takes in; the infrared levels the Shanghai team describe at 71, 87 and 103 THz, with the control at 53.7 THz that did nothing; and the terahertz light at 34.1 and 34.5 THz that lengthened a life and built new mitochondria. Each result is its discoverers'.

PART II — THE MITOCHONDRION IN THE UNIVERSAL FORCE OF TIME

7. What the theory already holds

Before anything new is said, the rule of this work is to ask what the theory already holds. On the mitochondrion it holds a great deal.

A node within a node. The Universal Force of Time reads the living cell as a node built of nodes. The whole cell is one node of the T-field; inside it the nucleus and each mitochondrion is a smaller node with its own boundary and its own library — for the mitochondrion, its own small, circular DNA.

The mitochondrial register. The paper on non-invasive medicine [2] names two registers that light reaches in the body: the cellular register, the geometry that holds the DNA helix in tension, and the **mitochondrial register**, where cytochrome c oxidase turns T-flow into usable power. It holds that terahertz light reaches the mitochondrion directly — its membranes and the bonds within them — and that a register which has drifted off its address, played its own note, recognises it and re-seats.

The 36 node. The cancer paper [3] places the mitochondrion's healthy energy address on the **36** node [$2^2 \cdot 3^2$] — the full oxidation of glucose — and reads the fall to bare fermentation, **2**, as that address collapsing. The same collapse is read in the lung [13] and in Type 2 diabetes [12].

The smoothness test. A living register answers frequencies built only from 2, 3, 5 and π, and resists those that cannot be written that way [2]. A frequency on a node the register holds is taken in; a frequency with no node is refused, and its energy turns to heat.

So the 2026 experiment did not discover something the theory lacked. It did, independently and in a laboratory, what the theory says can be done: it played the right light to the mitochondrial register, and the register's output lifted. What the theory has not had until now is the frequencies. That is what follows.

8. Frequency is time counted

A frequency is a count of turns in one second. In the Universal Force of Time it is the rate at which the flow turns at a given address, and it is the one reading every dimension agrees on. The theory moves a value between its forms — frequency, free fall, wavelength, mass, radius — with a fixed set of gears [4], and every chain in this paper uses those gears and nothing else.

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THE GEARS USED IN THIS PAPER

   x 864              the day: 86,400 seconds [2^7.3^3.5^2] at its decade
   / 495.0355349930   a wavelength to a free fall [7776/(5.pi)]
   x 2.pi             a free fall to a frequency: one turn
   / 57.29577951308   the veil, 180/pi: degrees to radians
   x 9375             a radius to a mass [3.5^5]
   / 2                a mass to its spin-orbit: the half
   x 12.4416          a gear with no pi in it [2^9.3^5/10^4]
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A free fall is not a pull: in the theory it is the flow of time at a place, in metres per second, every second — what current science takes for a gravitational fall — and it is the form a value takes between its frequency and its wavelength. Hydrogen is the first thing time builds, and the mitochondrion's whole business is hydrogen: it strips hydrogen from food and runs it down a chain to oxygen. So the first place to look for the mitochondrion's frequency is hydrogen's weight.

9. The middle level — hydrogen's weight on the day

On the second register, G2, hydrogen's weight is **1.0078604510** [$5^3/(2^2 \cdot \pi^3)$]. Multiply it by the day, 864:

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THE MIDDLE LEVEL

   87.0791429696 THz  =  hydrogen's weight (G2) x 864  =  2700/pi^3

WHAT EACH PART IS
   1.0078604510     hydrogen's weight on the second register, 5^3/(2^2.pi^3)
   864              the day, 86,400 seconds, at its decade
   2700/pi^3        the result: an odd power of pi, a road

WORKED EXAMPLE
   1.007860451037484 x 864 = 870.7914296963862
   at its decade:  87.07914296963862 THz, which to ten places is 87.0791429696
   check: 2700 / 31.00627668029982 = 87.07914296963862
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The same value is reached from hydrogen's own spectrum. The **Balmer limit** — the shortest wavelength of hydrogen's visible series, where its lines crowd together and stop — stands in the theory at **364.7562611124** [$3600/\pi^2$]. Multiplied by 12, divided by 2π and by 16, and doubled, it is 87.0791429696 to every digit. And the Balmer limit read through the veil is the radius of the **Mohorovičić discontinuity**, **6366.1977236758** kilometres [20000/π] — the depth inside the Earth where, in the theory, the linear and orbital waves of time are equalised [9]. So the mitochondrion's middle level is one address read three ways: hydrogen's weight on the day, a line of hydrogen's spectrum, and the Moho.

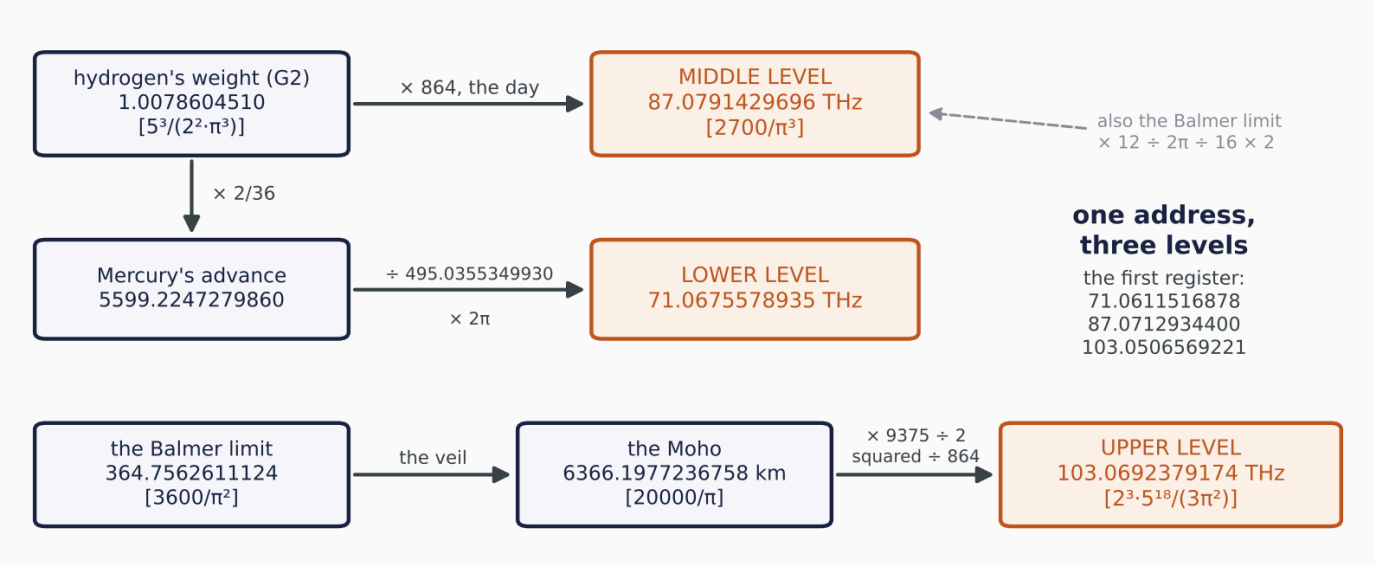


Figure 3 — One address, three levels. Hydrogen's weight on the second register, 1.0078604510 [$5^3/(2^2\cdot\pi^3)$]: on the day, 864, it is the middle level; taken to Mercury's perihelion advance and through the wavelength gear, the lower level; read as the Balmer limit, through the veil to the Moho, then through mass and spin-orbit and back onto the day, the upper level.

10. The bond itself — two roads to the carbon–hydrogen stretch

The middle level is the carbon–hydrogen bond's own note, so the bond deserves its own chain. This paper gives it two chained roads, each built from values the theory already holds, and no rounded or nearest-fit figure. Each lands on a different face of the bond, and the theory alone cannot say which the mitochondrion uses; both are laid out so that the experiment can decide.

Road 1 — the body's temperature node and helium. Start from the bond landing radius, **6370.0992** [$2^{11}\cdot3^5/5^7$], which is the body's temperature node, 36.864, multiplied by 172.8; turned once round the circle it is helium's weight, 4.0024513699. Read through the veil and divided by 4π — one turn, and the half — it is the carbon–hydrogen stretch.

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ROAD 1 - THE TEMPERATURE NODE AND HELIUM

   2904.4169588840 cm-1  =  6370.0992 x veil / 4.pi  =  2^11.3^7/(5^6.pi^2) (decade)

WHAT EACH PART IS
   6370.0992        the bond landing, 2^11.3^5/5^7 (decade); 36.864 x 172.8; x 2.pi = helium's weight
   57.29577951308   the veil, 180/pi
   / 4.pi           one turn, and the half; the result is an even power of pi, a room

WORKED EXAMPLE
   6370.0992 x 57.29577951308232 = 364,979.7992396621
   / 6.283185307179586 / 2 = 29,044.1695888399 ; at its decade 2904.4169588840 cm-1
   on the first register's light speed, 299,789,233.6830893 m/s:  87.0712934400 THz
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On the first register's light speed that is **87.0712934400 THz** — hydrogen's weight on the first register multiplied by 864, to every digit. The bond, read from helium and the body's temperature node, and hydrogen, read on the day, are the same frequency. Two roads that share nothing but the lattice meet on it.

Road 2 — the Earth's sidereal rotation. Start from the sidereal rotation as the record holds it, **23.5640690255** hours [$5^{11}/(2^5\cdot3^8\cdot\pi^2)$]. Multiplied by 2π and by 36, divided by 4, and square-rooted, it is **365.0365338571**, which read through the veil is the Earth's mean radius, **6371.0894058739** kilometres. Divided by 4π, it is the stretch's second face.

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ROAD 2 - THE EARTH'S SIDEREAL ROTATION

   2904.8684386243 cm-1  =  sqrt(sidereal x 18.pi) / 4.pi  =  5^(11/2)/(2^4.3^3.pi^(3/2)) (decade)

WHAT EACH PART IS
   23.5640690255    the sidereal rotation in hours, 5^11/(2^5.3^8.pi^2)
   x 2.pi x 36 / 4, square root   the year-station, 365.0365338571; through the veil the mean radius
   / 4.pi           one turn, and the half; the result is a half power of pi, a door

WORKED EXAMPLE
   sqrt(23.56406902547260 x 6.283185307179586 x 9) = 36.50365338570833 ; at its decade 365.0365338570833
   / 6.283185307179586 / 2 = 29.04868438624341 ; at its decade 2904.8684386243 cm-1
   on the first register's light speed:  87.0848283165 THz
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On the first register's light speed it is **87.0848283165 THz**. The two faces are not one value seen twice: one is a room — an even power of π, a state — and the other a door, a half power of π, so they are two faces of the bond. Road 1 meets hydrogen on the day; Road 2 belongs to the Earth's turning. Either could prove to be the mitochondrion's, and it would be no surprise if one answered and the other answered better.

11. Hydrogen's three limits, one gear down

The lattice holds three faces in a tight cluster that bear directly on the mitochondrion. Each is a value of the record:

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THE THREE FACES, NUMBER FIRST

   face            value            address                 where it comes from
   first register  6.9984           2^5.3^7/10^4            Mercury's orbit on the first register / 4.pi
   second register 6.9990309100     5^6/(2^3.3^2.pi^3)      Mercury's orbit, 87.9524163562 days / 4.pi
   nitrogen        7.0033202134     2^6.3^3/(5^2.pi^2)      nitrogen's weight, 14.0066404267 / 2
```

The whole number the three stand around cannot be written in twos, threes and fives: it is not a lattice address. In the Universal Force of Time a value that drifts onto it has fallen off its address — the drift the theory reads as the root of illness — and what the lattice holds there are these faces, on either side of it.

One gear to the 87. Each face, multiplied by **12.4416** [$2^9 \cdot 3^5/10^4$], a gear with no π in it, is a middle level: the first-register face gives **87.0712934400** exactly, the second-register face gives **87.0791429696** [$2700/\pi^3$] exactly, and the nitrogen face gives **87.1325087665**, a further face of the 87. So the three faces are not near the mitochondrion's levels by chance: they are its address, one gear down.

Down to hydrogen. Read each face as a frequency and run it through the gears: ÷ 2π to a free fall, ÷ 24 to an energy, ÷ 8 and × 2π to a wavelength — in all, the face divided by 192 [$2^6 \cdot 3$] — and each lands on one of hydrogen's three **Balmer limits**; multiplied by 12 and by 31,104, each is one of hydrogen's three **ionisation energies**, the energy it takes to free hydrogen's electron.

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THE THREE FACES ARE HYDROGEN'S THREE LIMITS

   face            energy (/2.pi /24)     Balmer limit (/8 x 2.pi)        ionisation energy (x 12 x 31104)
   6.9984          4.640958140559668      364.5 [3^6/2]  - Face B          13.6048896 eV
   6.9990309100    4.641376525736190      364.5328598949 - Face A          13.6061160890 eV
   7.0033202134    4.644220958380726      364.7562611124 [3600/pi^2] - C   13.6144544948 eV

   Face B x G-bond step = Face A ; Face A x 612 step = Face C
```

The three limits are one family: Face B carried one level up by the G-bond step is Face A, and Face A carried one step further by the 612 step is Face C — first register, second register, and one step beyond, the pattern the record finds wherever a family of lines stands. And Face C, $3600/\pi^2$, is the same address that gives the middle level $2700/\pi^3$ and the Moho.

Three more faces of the bond. Each energy divided by 16 reads as a carbon–hydrogen stretch, which on the first register's light speed falls in the band of the middle level: **2900.5988378498** cm^{-1} (86.9568302821 THz), **2900.8603285851** cm^{-1} (86.9646694928 THz) and **2902.6380989880** cm^{-1} (87.0179651355 THz). With the two roads of Section 10 that makes five chained faces of the stretch, every one built from values the theory already holds.

The faces as frequencies in their own right. Read at the decade of the levels, the three faces are **69.984, 69.9903091 and 70.0332021 THz** — just below the lower level the team measured, and one gear beneath the middle one. They are offered to the test too.

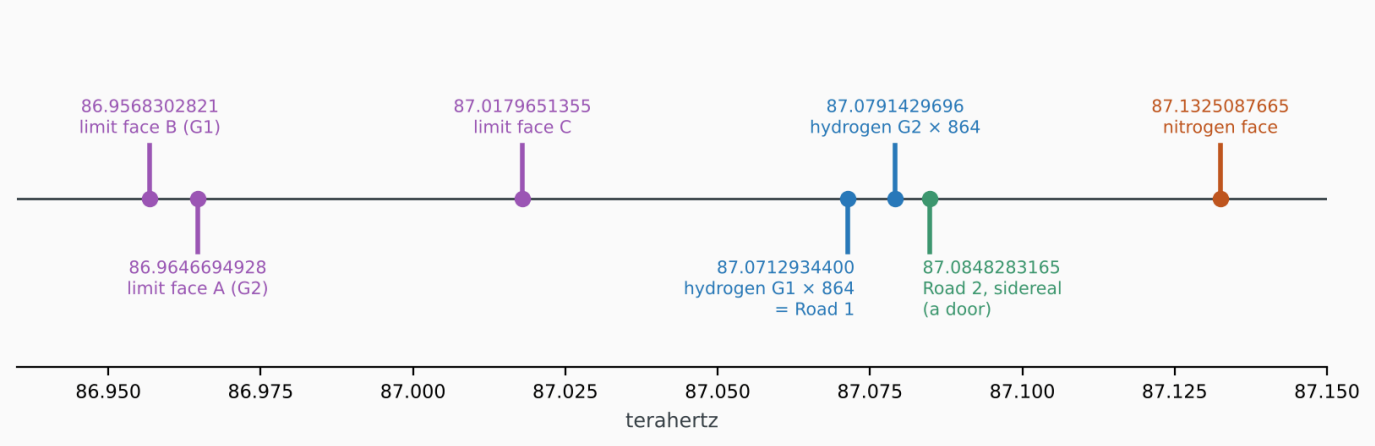


Figure 4 — Every candidate for the middle level on one line: the two hydrogen sets, the five chained faces of the carbon–hydrogen stretch and the nitrogen face. They cluster within a fraction of a terahertz of one another — close enough for one tunable source to sweep them all.

12. One dimension up — the middle level is Mercury

The theory moves a value between dimensions with the same fixed gears. A frequency divided by 2π is a free fall; a free fall divided by 24 is an energy in joules. And an energy has a doorway: take its square root and it passes into the dimension above, as a **radial mass** — a mass spread over a radius rather than held at a point. The radial mass times 9375 is a mass; the mass divided by π²/8 is a wavelength.

THE MIDDLE LEVEL THROUGH THE DOORWAY

87.0791429696 THz	the middle level (G2), 2700/pi^3	
/ 2.pi	13.8590760438	free fall
/ 24	0.5774615018	energy, joules
square root	0.7599088773	radial mass, the dimension above [15/(2.pi^2)]
x 9375	7124.1457248519	mass
/ (pi^2/8)	5774.6150182599	wavelength = the energy x 10^4

The energy of one dimension is the wavelength of the next. The energy below, 0.5774615018, and the wavelength above, 5774.6150182599, carry the same digits exactly; only the decade differs. What the cell holds as energy, the dimension above reads as a length.

And the radial mass is Mercury. The same radial mass, **0.7599088773** [15/(2π²)], divided by the day, 864, is Mercury's orbit, **87.9524163562** days; two-thirds of the orbit is its rotation, **58.6349442375** days — the 3 : 2 lock in which Mercury turns three times for every two orbits; and the rotation turned once round the circle is Mercury's rotation node, **368.4142201201** [10⁶/(864π)]. So the frequency that lifted the cell's ATP is, one dimension up, the orbit and the turning of the innermost planet — the same Mercury whose perihelion advance carries the lower level (Section 13).

And on, inside the dimension above. The wavelength there, 5774.6150182599, divided by 495.0355349930 is a free fall, **11.6650515166**; divided by 24 it is an energy of **0.4860438132** joules — hydrogen's H-beta line on the second register, **486.0438131932** [5⁷/(2⁶·3⁴·π³), decade], read inside that dimension as an energy. There are two ways out of any dimension: the square root of an energy leads up, to the radial mass of the dimension above; the square of a radial mass leads down, to the energy of the dimension below. The same 9375 and π²/8 serve both directions; only the doorway changes. The mitochondrion's middle level stands between Mercury above it and hydrogen's H-beta line within the dimension above, each reached by the same fixed gears.

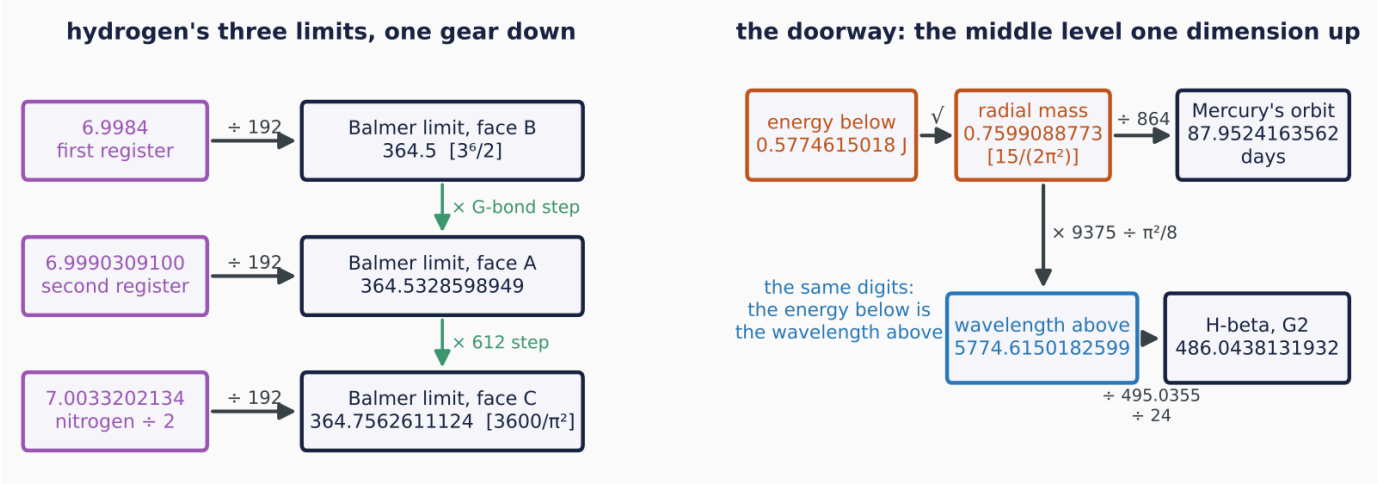


Figure 5 — Left: the three faces of hydrogen's limits — first register, second register and nitrogen — and their family of Balmer limits, joined by the G-bond step and the 612 step. Right: the two doorways. The middle level's energy, square-rooted, is the radial mass of the dimension above, which on the day is Mercury's orbit; its wavelength there carries the same digits as the energy below.

13. The lower level — Mercury's advance

The lower level is the one seen only in the living. Take hydrogen's weight again, multiply by 2 and divide by 36: on its decade it is **5599.2247279860** — Mercury's perihelion advance in the Universal Force of Time, the whole of the advance, reached by sixteen independent roads in the paper on Mercury [5] and written there as 864 × r ÷ π³ × 200. Taken down through the wavelength gear to a free fall, and turned once round the circle, it is the frequency the living cell shows and the dead one does not.

```
THE LOWER LEVEL

   71.0675578935 THz  =  Mercury's advance / 495.0355349930 x 2.pi

WHAT EACH PART IS
   5599.2247279860   Mercury's perihelion advance = hydrogen's weight x 2/36 (decade)
   495.0355349930    7776/(5.pi), the wavelength gear
   x 2.pi            one turn: free fall to frequency

WORKED EXAMPLE
   1.007860451037484 x 2 / 36 = 0.05599224727986022 ; at its decade 5599.224727986022
   5599.224727986022 / 495.0355349930313 = 11.31075313222685 (free fall)
   11.31075313222685 x 6.283185307179586 = 71.06755789354323 ; to ten places 71.0675578935 THz
```

The split carries the helical turn. The lower and middle levels stand in a fixed ratio, the same on both registers: 71 : 87 = **0.8161260604** [$5^7 \cdot \pi^2/(2^4 \cdot 3^{10})$]. That is the DNA's **helical turn** — r = 1.0046939300 [$5^6/(2^6 \cdot 3^5)$], the step by which the helix climbs one revolution — multiplied by $2\pi^2$ and divided by 243, on its decade: 1.0046939300 × 2 × 9.8696044011 ÷ 243 = 0.0816126060, which at its decade is 0.8161260604. The gap between the bond and the note only the living carry is set by the turn of the helix.

14. The upper level — the Moho's spin-orbit

The upper level is the one the experiment could not see. Its road runs through the Moho, the address the middle level already touched.

```
THE UPPER LEVEL

   103.0692379174 THz  =  (Moho x 9375 / 2)^2 / 864  =  2^3.5^18/(3.pi^2) (decade)

WHAT EACH PART IS
   6366.1977236758   20000/pi, the Moho radius, the depth of time equalisation
   x 9375 / 2        radius to mass, mass to spin-orbit
   squared / 864     on the day; the result is an even power of pi, a room

WORKED EXAMPLE
   6366.197723675813 x 9375 = 59,683,103.65946075 ; / 2 = 29,841,551.82973038
   squared, / 864 = 1,030,692,379,174.172 ; at its decade 103.0692379174 THz
```

Why the Moho. In the Universal Force of Time the Mohorovičić discontinuity is not merely where one kind of rock gives way to another. Time arrives at every node of the T-field by two roads — linearly, across the radius, and orbitally, around the orbit — and the orbital wave comes in longer than the linear. The Moho, at 20000/π, is the depth at which the two are equalised, so that they meet as one and the frame is undistorted [9]. A living cell carrying a level on this address carries the same correction that holds a planet's time in balance.

The levels are not evenly spaced. The model in the original paper places the upper level by setting the same gap above the bond as the lower level sits below it . The lattice does not add; it multiplies, and its upper level, **103.0692379174**, stands below the place an equal gap would give it, on both registers. Because the upper level is hidden in the measured spectrum, this is a prediction the theory makes that the original model does not.

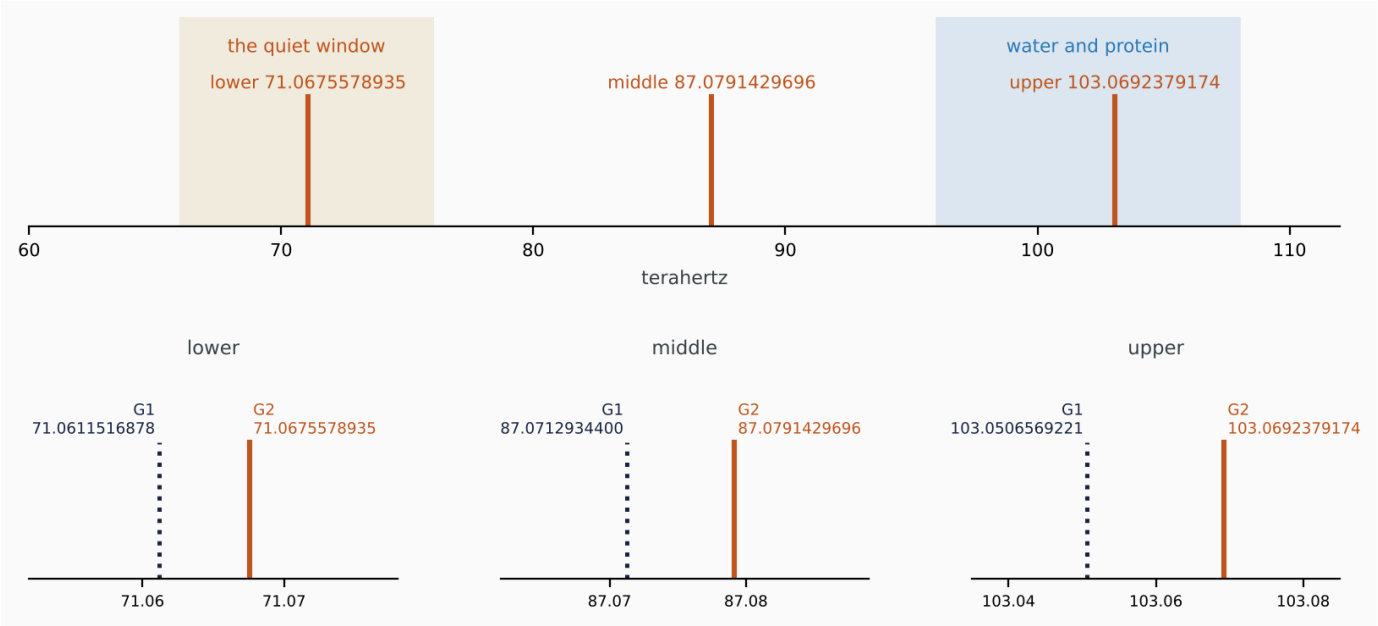


Figure 6 — The levels in the infrared. The lower level falls in the quiet window where only the living answer; the upper falls under the band of water and protein. Solid lines: the second register; dotted: the first.

15. One address on two registers

Every value in the Universal Force of Time has faces on more than one register. Hydrogen's weight on the first register, G1, is **1.0077696** [$2^2 \cdot 3^9/5^7$], one G-bond step below its second-register face [6]; the Moho has an upper face, 20000/π, and a base one G-bond step below it, **6365.6238588442** kilometres. Run the same chains on G1 and the three levels come out a little lower.

level	G2 (THz)	G1 (THz)	reached from	kind
lower	71.0675578935	71.0611516878	Mercury's advance	road
middle	87.0791429696	87.0712934400	hydrogen × 864	road
upper	103.0692379174	103.0506569221	the Moho	room

The two Moho radii are the two boundaries of one layer, **one G-bond step apart** — the upper face is the base times **1.000090150603356** [$5^{10}/(2^4 \cdot 3^9 \cdot \pi^3)$] — and the layer is where the incoming linear and orbital waves of time are

equalised. Stephen Daubney's reading of the two sets: the second register sits on the Moho's upper face and on hydrogen's weight; the first register sits on the Moho's base and on the first register's light speed, 299,789,233.6830893 metres a second. Each set is a face of the same levels, one per register, and each is exact where it is read.

16. Why length matters — the carrier of nodes

The most striking measurement in the original work is not a frequency but a length: the working mitochondrion is one wavelength of its own bond's light long, or half a wavelength. The original paper reads this as an optical cavity. The Universal Force of Time reads it more simply: a wave is a carrier of nodes spaced one wavelength apart [8], and a mitochondrion of the right length holds one complete carrier — a node at each end. The structure holds the address; the address is the frequency.

The paper on refraction [7] adds the medium. In the theory the refractive index of a medium is a time-dilation factor, and an index of 3/2 shortens a wavelength to two-thirds. On Road 1 the stretch has a wavelength of **3.44303181725** micrometres; inside a medium of index 3/2 that is **2.2953545448** — the helical turn multiplied by π^2 and divided by 432 [$2^4 \cdot 3^3$], on its decade. On Road 2 the wavelength is 3.4424966952, and in the medium 2.2949977968. This is a reading, not a landing: a length measured to two figures cannot place a value on the lattice. What it says is that the mitochondrion's length is the kind of thing the lattice predicts — a whole number of half-wavelengths in a medium whose index is itself a lattice ratio.

17. Why the dead are silent, and why the wrong light does nothing

The dead are silent because the note was never in the molecules. In the Universal Force of Time a register is held by geometry: the ordered stack of cristae, the length of the rod, the medium inside it. Grind it and every molecule survives, but the address is gone. The conservation law $d\Sigma T = 0$ says the flow is never lost, only redistributed; in a living mitochondrion it is redistributed into usable power, because the register is doing the work the molecules alone could not.

The wrong light does nothing for the reason the smoothness test gives [2]. A frequency on a node the register holds is answered; a frequency with no node is refused, and its energy turns to heat. The original experiment showed exactly this pattern: light at the lower level and at the bond's own level raised the cell's energy store, and light at the control frequency, 53.7 THz, did not. The theory's reading is that the register holds no node there.

light given	on a node the register holds?	the theory says	the experiment saw
the lower level, 71 THz	yes	answered	energy rose
the bond's level, 87 THz	yes	answered	energy rose
the control, 53.7 THz	no	refused, turns to heat	no change

18. The red and terahertz light that reaches the same register

The 2026 note is not the only light shown to act on the mitochondrion. Within each of the other frequencies set out in Part I, the theory finds exact lines, each reached by its own chain and set out first in the companion papers on Alzheimer's disease [10] and diabetes [12] and gathered in the paper on non-invasive medicine [2]; every line belongs in every paper whose register it bears on, so they are printed here too.

```
THE LINES WITHIN THE LIGHT THAT REACHES THE MITOCHONDRION, NUMBER FIRST

   band      line                 address                    reached from ; kind
   670 nm    669.9709631653324    12.sqrt2.pi^2/25 (decade)  the neutron, 1.674927407913331 x 4 ; door
             669.9936644397894    3^8.5^3/(2^2.pi^5)         the 3^8 of hydrogen's 1312.2 kJ/mol root ; road
             670.2064327658226    2^9.5^3.pi/3 (decade)      the year face 1000.pi^2/27 x 576/pi ; road
   34.5 THz  34.53571972029188    2^6.3^7.5^2.pi^2 (decade)  the first register's light speed / the helical
                                                             turn on the day, 868.0555555555556 ; room
             34.53727639319399    x sqrt(G-bond step)        the door between ; door
             34.53883313626201    x G-bond step              the second-register face ; road
   34.1 THz  34.08538913461813    2^4.3^7.pi^4 (decade)      the first register's light speed / Mercury's
                                                             orbit, 87.9524163562 days ; room
             34.08846195301425    x G-bond step              the surface face ; road
```

One link deserves to be seen. The 34.1 THz line is the first register's light speed divided by Mercury's orbit — and Mercury's orbit is exactly where the middle level arrives one dimension up (Section 12): its radial mass on the day. The light that lengthened a life and the note only the living carry meet at Mercury's orbit. And the 34.5 THz line is

the same light speed divided by the helical turn carried on the day, 864 × r = 868.0555555555556 [$5^6/(2\cdot3^2)$] — the DNA's first helical turn, read as light.

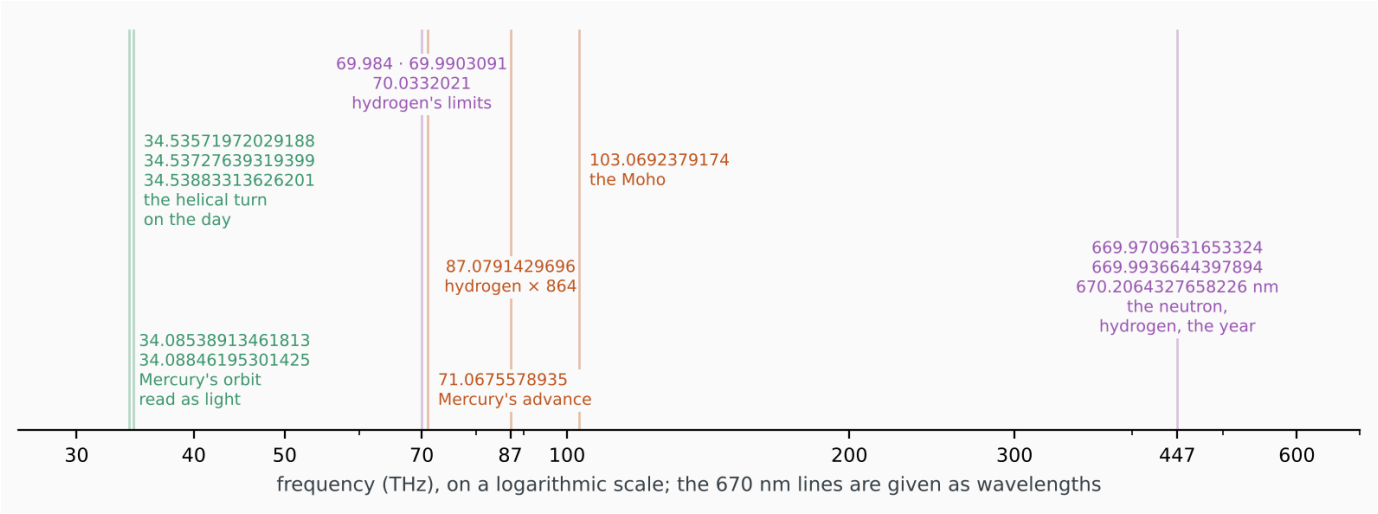


Figure 7 — The mitochondrion's lines across the spectrum. From the red light at 670 nm that cytochrome c oxidase takes in, through the three levels of the 2026 note, down to the terahertz light at 34.5 and 34.1 THz: each band holds exact lattice lines reached by chains from named objects — the neutron, hydrogen, the year, the helical turn and Mercury.

19. Where these results come from

The research is theirs. The note only the living carry, its three levels, the length of the rods and the rise in ATP are Yu Yang's, Zhenglong Gu's and Bo Song's; the 670 nm results are Glen Jeffery's group's, with Michael Powner and Harpreet Shinhmar; the 34.5 THz result is F. Wu's and Z. Zhu's group's; the 34.1 THz result is C. Shao's and Bo Song's group's; the identification of cytochrome c oxidase as the receiver of red light is Tiina Karu's. It was their results that pointed this paper to these parts of the problem, and their work is the supporting evidence on which these sections are built. **The frequencies, and the credit for finding that they act, are theirs.**

What is ours is the theory's reading — and, within each of their frequencies, the exact lattice lines above, each reached by its own chain from named objects: for the 2026 note, the three levels on two registers, the five faces of the bond and hydrogen's three limits one gear down. They are offered back to those groups, and to any team so minded, to test.

What is claimed, and what is not. Claimed: the three frequency levels described for the living mitochondrion each sit on the lattice of time, and all three come from one address — hydrogen's weight — through named gears: the day, Mercury's perihelion advance, the Balmer limit and the Moho. Not claimed: that the arithmetic alone proves it — a chain of lattice values always lands on a lattice value, and what carries weight is where the chains land, on objects the theory settled for its own reasons long before this experiment; that the original authors endorse this reading; or that the first register or the second is settled. The original work is a preprint and has not yet been reviewed; its authors bear no responsibility for this reading of it.

PART III — THE LINES OFFERED, AND THE TEST THEY INVITE

20. Four candidates, each anchored in the theory

The theory has put the mitochondrion's levels on the lattice of time, and they have faces on more than one register, as every value in the Universal Force of Time does; a living thing may answer more than one of them. None of the candidates below was invented for the test. Each is a value the theory already holds for its own reasons, tied to other parts of the Earth, the Sun's system and the wider universe, and that is why each is put forward.

Candidate 1 — the first-register set: 71.0611516878, 87.0712934400, 103.0506569221. The first register is the register of the ground we stand on. Its set rests on hydrogen's weight on that register, 1.0077696 [$2^2\cdot3^9/5^7$], on the base of the Moho, 6365.6238588442 kilometres, and on the first register's light speed. Its middle level is

reached by two roads that share nothing but the lattice — hydrogen on the day, and helium with the body's temperature node (Section 10). On the arithmetic alone that makes it the strongest single value in the paper.

Candidate 2 — the second-register set: 71.0675578935, 87.0791429696, 103.0692379174. The second register is the register of the Sun's system. Its set rests on hydrogen's weight there, 1.0078604510 [$5^3/(2^2 \cdot \pi^3)$]; on Mercury's perihelion advance, through which the lower level runs; on the Balmer limit, $3600/\pi^2$, from which the middle level is reached too; and on the top of the Moho, $20000/\pi$, through which the upper level runs. And the same Moho, lifted one helical turn, reaches the Earth's turning: the Moho × r is **6396.0802104189** — the helical turn × 4 ÷ 2π, on its decade [11] — and that radius squared and set on the hours of the day, × 24 × 24, is the sidereal rotation as the record holds it, **23.5640690255**, to every digit. This is the most complete candidate: all three levels come from one address, and that address is tied to Mercury's orbit and advance and to the Earth's own turning.

Candidate 3 — the sidereal face of the bond: 87.0848283165. Every living thing on this planet is timed by the planet's turning — its days, its sleep, its seasons. It would be no surprise if the living cell kept a frequency tied to the sidereal rotation, or answered it more strongly than the others. This candidate is a door, a half power of π, where the other two are rooms and roads; it is a separate face of the bond, not a rounding of either.

Candidate 4 — hydrogen's three limits, one gear down. The three faces of Section 11 give three more faces of the bond — **86.9568302821, 86.9646694928 and 87.0179651355** — a nitrogen face of the 87, **87.1325087665**, and the faces themselves as frequencies, **69.984, 69.9903091 and 70.0332021**. They are candidates because they are hydrogen itself, read at the address the mitochondrion spends its life handling.

Each is strong in its own way. The first-register middle level is the strongest on the arithmetic, because two unrelated roads meet on it. The second-register set is the most complete, and it is tied to the largest things the theory holds — Mercury's orbit and advance, and the turning of the Earth. The sidereal face is tied to the rhythm every living thing already keeps. Hydrogen's limits are hydrogen's own. **The theory can say why each value should matter; it cannot say which one a living mitochondrion answers.** That is for the laboratory, and the test below is built so that one run can show which is answered, and which is answered best.

21. The test the lines invite

The test needs nothing the original team does not already have: the same cells, the same infrared sources, the same measurement of stored energy. It needs one thing more — a narrow-line, tunable source — because the candidates lie within a fraction of a terahertz of one another, while a broad source spreads its light across all of them at once.

THE TEST IN SIX ARMS

arm	light	the theory points to
A	the second-register set: 71.0675578935 ; 87.0791429696 ; 103.0692379174	a response
B	the first-register set: 71.0611516878 ; 87.0712934400 ; 103.0506569221	a response
C	neighbours just off the lattice, at the same power and time	a weaker response, or none
D	no light, paired with every arm	the baseline
E	the bond's other chained faces: 87.0848283165 ; 86.9568302821 ; 86.9646694928 ; 87.0179651355 ; 87.1325087665	a response
F	hydrogen's three limits as frequencies: 69.984 ; 69.9903091 ; 70.0332021	a response

Arm B's middle frequency, 87.0712934400, is also the bond's Road 1 face, so arm B tests hydrogen on the first register and the helium road together. Arm E tests the bond's other faces — the sidereal road, hydrogen's three limits and nitrogen — and arm F the three faces themselves. **If several arms answer, the order in which they answer is itself the result**: it says which face the living mitochondrion keeps.

Three further measurements belong with it. First, the lower level measured to eight figures, so that it can be read against the two registers' values, 71.0675578935 and 71.0611516878. Second, the upper level measured with water held out of the beam, where the lattice puts it, 103.0692379174. Third, the response measured across temperature, which the theory puts at its strongest at the body's temperature node, **36.864 °C** [$2^{12} \cdot 3^2$, decade]. And because Glen Jeffery's group found that 670 nm light works in the morning and not at noon, the time of day is part of the test.

The same test extends to the light the other groups found. The three 670 nm lines lie within a quarter of a nanometre of one another, the three 34.5 THz lines and the two 34.1 THz lines within a few thousandths of a terahertz; each can be tried against its neighbours just off the lattice, at the same power, in the same way.

22. The register in illness

The mitochondrion is not a side issue for medicine; it sits under much of it. Across the series, one collapse is read beneath five illnesses that medicine files under different names: the energy register fallen from the **36** node [$2^2 \cdot 3^2$] toward the fermentation floor of **2** — in cancer [3], in the lung [13], in chronic kidney disease and the fatty liver, and as the second stage of Type 2 diabetes [12]. For each, the series states the same correction: **restore the 36 node**. The mitochondrion is where that node lives.

The correction principle is the one the theory gives for every register that has drifted: play it its own note until it re-seats [2]. Light on a node the register holds is taken in, and the register's output lifts — which is what the groups in Part I have now shown in living cells, in a living organism and in people. The lines in this paper are candidates for that address, each printed with its chain. How any light is given, and the rest of the corrective detail, are held in the Foundation's clinical reference.

23. The resolution — the laboratory first, then the clinical trial

We have acknowledged the finding — a note that only the living carry, traced to the mitochondrion, and the rise in energy when its own light is played back — and credited it to those who made it. We have read the mitochondrion as the register where the flow of time becomes usable power, and put its three levels on the lattice of time: all three from one address, hydrogen's weight, through the day, Mercury's advance, the Balmer limit and the Moho, on two registers. We have given the bond two chained roads and found three more faces of it in hydrogen's own limits, followed the middle level one dimension up to Mercury's orbit, and found within the red and terahertz light that other groups have shown to act on the mitochondrion exact lines of their own. And we have set out four candidates and the test that would show which one life keeps.

The order is plain. The laboratory first, to say which face the living register keeps; then the clinical trial, to carry that address to the illnesses in which the register has fallen. The corrections are stated as principles because the next step is not to prescribe them to a reader but to put them to the test.

PROPOSITIONS

- **P-MITO-1.** A property of living tissue that vanishes when the tissue is ground, and belongs to no molecule, is a register held by structure.
- **P-MITO-2.** The mitochondrion is the mitochondrial register [2], where the flow of time becomes usable power; its healthy energy address is the 36 node [$2^2 \cdot 3^2$].
- **P-MITO-3.** The right light lifts the mitochondrial register's output [2], now shown independently in living cells, in a living organism and in people.
- **P-MITO-4.** The middle level is hydrogen's weight on the day: 87.0791429696 THz = 1.0078604510 × 864 [$2700/\pi^3$].
- **P-MITO-5.** The same 87.0791429696 is the Balmer limit, 364.7562611124 [$3600/\pi^2$], × 12 ÷ 2π ÷ 16 × 2; through the veil the Balmer limit is the Moho, 6366.1977236758 [$20000/\pi$].
- **P-MITO-6.** The lower level is Mercury's perihelion advance as a frequency: 5599.2247279860 ÷ 495.0355349930 × 2π = 71.0675578935 THz.
- **P-MITO-7.** Mercury's advance is hydrogen's weight × 2/36, on its decade.
- **P-MITO-8.** 71 : 87 = 0.8161260604 [$5^7 \cdot \pi^2/(2^4 \cdot 3^{10})$] on both registers — the helical turn × $2\pi^2/243$, on its decade: the split carries the helical turn.
- **P-MITO-9.** The upper level is the Moho's spin-orbit squared on the day: 103.0692379174 THz [$2^3 \cdot 5^{18}/(3\pi^2)$, decade].
- **P-MITO-10.** The three levels are not evenly spaced: they stand in a product, not a sum, and the upper level, 103.0692379174 on the second register, stands below the place an equal gap would give it.
- **P-MITO-11.** All three levels come from one address, hydrogen's weight on the second register; for counting, that is one anchor.
- **P-MITO-12.** The first-register set is 71.0611516878, 87.0712934400 and 103.0506569221 THz; the levels are one set or the other.
- **P-MITO-13.** The two Moho radii, 6366.1977236758 and 6365.6238588442 km, are one G-bond step apart, the two boundaries of one layer.

- **P-MITO-14.** Road 1: 6370.0992 [$2^{11}\cdot3^5/5^7$, decade; 36.864 × 172.8; × 2π = helium] × veil ÷ 4π = 2904.4169588840 cm⁻¹ [$2^{11}\cdot3^7/(5^6\cdot\pi^2)$, decade]; on the first register's light speed, 87.0712934400 THz = hydrogen G1 × 864.
- **P-MITO-15.** Road 2: √(sidereal rotation × 18π) ÷ 4π = 2904.8684386243 cm⁻¹ [5^(11/2)/($2^4\cdot3^3\cdot\pi$^(3/2)), decade], via the mean radius 6371.0894058739; on the first register's light speed, 87.0848283165 THz.
- **P-MITO-16.** The two roads give two faces of the bond, a room and a door; neither is ruled out.
- **P-MITO-17.** The three faces of hydrogen's limits are 6.9984 [$2^5\cdot3^7/10^4$], 6.9990309100 [$5^6/(2^3\cdot3^2\cdot\pi^3)$] and 7.0033202134 [$2^6\cdot3^3/(5^2\cdot\pi^2)$]; the whole number they stand around is not a lattice address.
- **P-MITO-18.** Each face × 12.4416 [$2^9\cdot3^5/10^4$] is a middle level: 87.0712934400, 87.0791429696 and 87.1325087665.
- **P-MITO-19.** Divided by 192 [$2^6\cdot3$] the faces are hydrogen's three Balmer limits — 364.5 [$3^6/2$], 364.5328598949 and 364.7562611124 [$3600/\pi^2$], joined by the G-bond step and the 612 step — and × 12 × 31,104 its three ionisation energies, 13.6048896, 13.6061160890 and 13.6144544948 eV.
- **P-MITO-20.** Their energies ÷ 16 are three further faces of the stretch: 2900.5988378498, 2900.8603285851 and 2902.6380989880 cm⁻¹ (86.9568302821, 86.9646694928 and 87.0179651355 THz).
- **P-MITO-21.** The middle level through the doorway: 87.0791429696 ÷ 2π ÷ 24 = 0.5774615018 J; its square root, 0.7599088773 [$15/(2\pi^2)$], is the radial mass of the dimension above; × 9375 ÷ $\pi^2/8$ = 5774.6150182599 — the energy below is the wavelength above.
- **P-MITO-22.** That radial mass ÷ 864 = 87.9524163562 days, Mercury's orbit; × 2/3 = 58.6349442375 days, its rotation; × 2π = 368.4142201201 [$10^6/(864\pi)$], its rotation node.
- **P-MITO-23.** In the dimension above, the wavelength 5774.6150182599 ÷ 495.0355349930 ÷ 24 = 0.4860438132 J — H-beta on the second register, 486.0438131932 [$5^7/(2^6\cdot3^4\cdot\pi^3)$, decade].
- **P-MITO-24.** The two doorways: the square root of an energy goes up to the radial mass of the dimension above; the square of a radial mass comes down to the energy of the dimension below.
- **P-MITO-25.** The mitochondrion's length, a whole number of half-wavelengths, is a carrier of nodes holding one address; on Road 1 the wavelength in a medium of index 3/2 is 2.2953545448 µm [$r\cdot\pi^2/432$, decade] — a reading, not a landing.
- **P-MITO-26.** Light at a frequency with no node is refused — the smoothness test — as the control at 53.7 THz showed.
- **P-MITO-27.** Within the 670 nm light the theory finds 669.9709631653324 (door), 669.9936644397894 (road) and 670.2064327658226 nm (road).
- **P-MITO-28.** Within the 34.5 THz light: 34.53571972029188 [$2^6\cdot3^7\cdot5^2\cdot\pi^2$, decade] — the first register's light speed over the helical turn on the day — with its door, 34.53727639319399, and its road, 34.53883313626201.
- **P-MITO-29.** Within the 34.1 THz light: 34.08538913461813 [$2^4\cdot3^7\cdot\pi^4$, decade] — the first register's light speed over Mercury's orbit — and its surface face, 34.08846195301425; Mercury's orbit is where the middle level arrives one dimension up.
- **P-MITO-30.** The second-register set reaches the sidereal rotation: the Moho × r = 6396.0802104189; squared × 24 × 24 = 23.5640690255.
- **P-MITO-31.** Four candidate sets stand, each anchored in the theory for its own reason; which the living mitochondrion keeps is for the test to decide.
- **P-MITO-32.** A six-arm test — the second-register set, the first-register set, off-lattice neighbours, no light, the bond's other faces, hydrogen's three limits — on which the theory points to A, B, E and F above C, and all above D.
- **P-MITO-33.** Open: whether the response peaks at the body's temperature node, 36.864 °C [$2^{12}\cdot3^2$, decade].
- **P-MITO-34.** The register's fall from 36 toward 2 is the shared stage beneath cancer, lung disease, kidney disease, the fatty liver and Type 2 diabetes; the correction principle is restoring the 36 node by playing the register its own note until it re-seats.

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APPENDIX — EVERY NUMBER, REBUILT

Every value can be rebuilt with any calculator, from twos, threes, fives and π. The script M_calc.py asserts every printed station at fifty digits — one hundred values; it passed in full.

```
THE SECOND REGISTER
   hydrogen's weight 1.007860451037484 x 864 = 870.7914296963862  ->  middle level 87.07914296963862 THz (decade)
   x 2 / 36 = 0.05599224727986022  ->  Mercury's advance 5599.224727986022 (decade)
   / 495.0355349930313 = 11.31075313222685 ; x 2.pi  ->  lower level 71.06755789354323 THz
   the Moho 6366.197723675813 [20000/pi] x 9375 = 59,683,103.65946075 ; / 2 = 29,841,551.82973038
   squared / 864  ->  upper level 103.0692379174172 THz  [2^3.5^18/(3.pi^2)] (decade)

THE FIRST REGISTER
   hydrogen's weight 1.0077696 x 864 = 870.7129344  ->  middle level 87.07129344 THz (decade)
   x 2 / 36  ->  Mercury's advance 5598.72 (decade)
   x 2.pi / 495.0355349930313  ->  lower level 71.0611516878434 THz
   the Moho base 6365.6238588442 (one G-bond step below) x 9375 / 2, squared / 864
   ->  upper level 103.0506569221154 THz (decade)
```

```
THE BOND
   Road 1  6370.0992 x 180/pi / 4.pi = 29,044.1695888399  ->  2904.41695888399 cm-1 (decade)
           on 299,789,233.6830893 m/s  ->  87.07129344 THz
   Road 2  sqrt(23.56406902547260 x 18.pi) = 36.50365338570833  ->  365.0365338570833 (decade)
           / 4.pi = 29.04868438624341  ->  2904.868438624341 cm-1 (decade)
           on 299,789,233.6830893 m/s  ->  87.08482831653833 THz

HYDROGEN'S THREE LIMITS (each column at its decade)
   face                / 192               x 373,248 (eV)       energy / 16 (cm-1)
   6.9984              364.5               13.6048896           2900.598837849792
   6.999030909982528   364.5328598949233   13.60611608900603    2900.860328585119
   7.003320213358387   364.7562611124160   13.61445449476870    2902.638098987954
```

```
THE DOORWAY
   87.07914296963862 / 2.pi / 24 = 0.5774615018259939 ; square root = 0.7599088773175333  [15/(2.pi^2)]
   / 864 = 0.0008795241635619598  ->  Mercury's orbit 87.95241635619598 days (decade)
   x 2/3 = 58.63494423746399 days ; x 2.pi = 368.4142201201281  [10^6/(864.pi)]
   0.7599088773175333 x 9375 / (pi^2/8) = 5774.615018259939 ; / 495.0355349930313 / 24 = 0.4860438131932311
   ->  486.0438131932311, H-beta on the second register (decade)

THE LIGHT THAT REACHES THE SAME REGISTER
   670 nm    669.9709631653324 ; 669.9936644397894 ; 670.2064327658226
   34.5 THz  299,789,233.6830893 / 868.0555555555556 = 345,357.197202919  ->  34.5357197202919 (decade)
             x sqrt(G-bond step) 34.53727639319399 ; x G-bond step 34.53883313626201
   34.1 THz  299,789,233.6830893 / 87.95241635619598 = 3,408,538.91346181  ->  34.0853891346181 (decade)
             x G-bond step 34.08846195301425
```

A NOTE ON THE NUMBERS

Throughout this paper a value is given first as a plain number and then, in brackets, as its place on the {2, 3, 5, π} lattice; the bracket is the address, the number is the thing you can hold. The values are written as plain numbers — not always pinned to units, and moved freely by powers of ten. This is not loose notation; it is the physics. Under the Universal Force of Time a quantity is not the property of one dimension: the same T-value shows up as a frequency in a cell, a weight in an atom, an advance in an orbit, a radius in a planet. That is why hydrogen's weight can run, gear by gear, to Mercury's advance and to a frequency the living mitochondrion carries: they were never separate quantities. Where a value is off the lattice, the paper says that it cannot be written in twos, threes and fives, and no more. The lines within the research frequencies are given as values with their chains; how any light is given, and the corrective detail, are held in the Foundation's clinical reference and are not prescribed here.

The Daubney Foundation is in ongoing discussions with medical establishments regarding clinical trials of Universal Force of Time solutions to the conditions described in this paper. Any institution or researcher wishing to put themselves forward for participation in these trials is invited to make themselves known through: thedaubneyfoundation@gmail.com

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