THE UNIVERSAL FORCE OF TIME · MEDICINE

The Medium Is the Clock

How the refractive index sets the rate of time — the two clocks from gestation to death, light entering the body at three-quarters of its wavelength, and ageing read as three routes

Stephen Daubney · The Daubney Foundation · 2026 · Rev 4 (supersedes Rev 3: light into the body's water; ageing as an illness with three routes and corrections; the research on the clock of ageing credited; a foreign number no longer named)

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 CLOCKS, NUMBER FIRST

water **n = 4/3** ($2^2/3$) → time runs at **3/4** · the body keeps **two clocks** · a water part at 80 is **60**

gestation: **270 days** in air = **202.5 days** = **4,860 hours** on the fetus's own clock

Hβ **486 nm** in air arrives in the body's water at **364.5 nm** ($3^6/2$) — hydrogen's own Balmer limit

ABSTRACT

Hold a glass of water to the light and the straw inside it looks broken at the surface. Science calls this refraction and gives water a number — its refractive index, **n = 4/3** [$2^2/3$] — meaning light travels at three-quarters of its air speed inside. The Universal Force of Time reads that number far more deeply: **n is the medium's T-time dilation factor.** Light slows inside water because T itself — the sole substance of reality — flows more slowly there, at 1/n of its air rate. So whatever lives inside a medium of index n runs at 1/n of the air rate. For water, the medium of life, that rate is **3/4** exactly — not approximately, but as a lattice identity.

The human body, mostly water, therefore keeps **two clocks** at once: an external air register at the full rate and an internal water register at three-quarters, and in this paper the gap between them is what ageing is. The paper follows the two clocks across a whole life. Before birth the fetus lives on the water clock alone, so the observer's 270 days of pregnancy are **202.5 days** on the fetus's own clock — **4,860 hours**, carrying 486, the node of hydrogen's line of life. The first breath brings the air clock, and with it the two-clock state and ageing. At death each part of the body carries the age of its own clock — a water part three-quarters of the calendar age, **60 at 80**. The Greenland shark, wholly immersed in cold deep water, lives past four centuries because its whole biology runs on the slow clock with no split to fight. The media life uses sit on pure lattice fractions — water 4/3, the lens 3/2, the calcite shell 5/3 — evenly spaced by **1/6**, and the same n that slows time sets the medium's T-free fall, $g_1/\sqrt{n}$.

This revision adds three things. **Light entering the body keeps its frequency and shortens its wavelength by 3/4**: hydrogen's blue line, 486 nm in air, arrives in the body's water at **364.5 nm** [$3^6/2$] — hydrogen's own Balmer limit, exactly. So every healing line the series quotes in air is read by the body's water at three-quarters of that wavelength, and at the same frequency. It reads **ageing as an illness with three routes** — the water register thins, the register's keeper runs out, the day's clock is lost — each with its correction. And it gathers the research that bears on the clock of ageing, credited by name: NAD^+ halving between twenty and sixty, a terahertz line that lengthened a creature's life by sixty per cent, and a red light that works in the morning and not at noon. Fifteen propositions, P-MEDIUM-1 to P-MEDIUM-15, are stated; the corrective detail is held in the Foundation's clinical reference, and the structure resolves into the clinical trial.

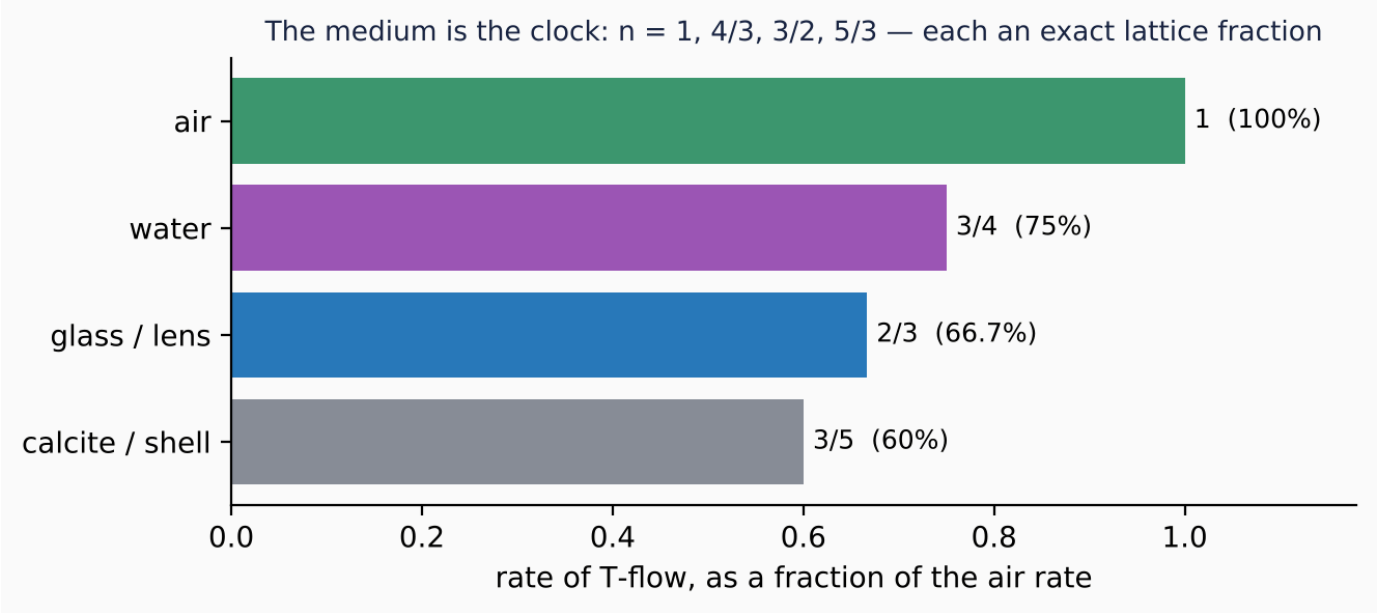


Figure 1 — The medium is the clock. The rate at which T flows inside a medium, as a fraction of the air rate: air 1, water 3/4, glass and the eye's lens 2/3, calcite 3/5 — each the reciprocal of an exact lattice index.

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. NAD is the cell's redox register: a place where an address is written (NADH, the ring carrying its electron pair) and erased (NAD^+, the ring cleared and ready to read), over and over.

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 $\pi^2/8$ 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 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, 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 703 step. The G-bond step and the 612 step taken end to end, 1.000703048319385 [$2^5 \cdot 5^2/(3^4 \cdot \pi^2)$]. A value carried "one 703 step" is multiplied by it.

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. 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, Mercury's orbit, body temperature, helium — 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 — WHAT IS KNOWN

1. The glass of water

Find a glass of water and hold it up to the light. The light bends as it crosses from air into water; a straw looks broken at the waterline; a coin on the floor of a pool seems closer than it is. Physics measures the bending with the refractive index — the ratio of light's speed outside a medium to its speed inside. For water it is about 1.33, for glass about 1.5, for the mineral calcite about 1.66 along its ordinary ray. When light enters water its **frequency stays the same and its wavelength shortens** in the same ratio as its speed; that is why a lamp's colour does not change underwater.

2. Water and the body

Water makes up most of the human body: blood plasma is about 92 per cent water, the vitreous humour of the eye and the cerebrospinal fluid about 99 per cent, and every cell's interior is an aqueous solution. Life on Earth began in water, and every organism still runs its essential chemistry — copying DNA, folding proteins, catalysing reactions — in an aqueous interior. Before birth a human lives entirely in water, in the amniotic fluid, its lungs filled with fluid; with the first breath it begins to live in air.

3. Lifespan and the water

The longest-lived animals on Earth are aquatic or cold-blooded. Radiocarbon dating of eye-lens proteins in 2016 showed the **Greenland shark**, which lives at 200 to 600 metres in near-freezing Arctic water, reaching ages past 400 years — the longest-lived vertebrate known (Julius Nielsen and colleagues, *Science*, 2016). The ocean quahog clam reaches about 500 years, the bowhead whale about 200, the Aldabra giant tortoise about 150. The shortest-lived mammals are small, warm-blooded and terrestrial: a mouse lives about two years.

4. What the research has found about the clock of ageing

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

NAD^+ halves with age. The molecule the cell's repair enzymes spend falls to roughly half between young adulthood and late middle age — across a window of about forty years — and as it falls the sirtuins that keep the genome in repair slow with it (Massudi and colleagues, *PLoS ONE*, 2012; Imai and Guarente, *Trends in Cell Biology*, 2014).

A frequency that lengthened life. Weak mid-infrared light at **34.1 THz**, thirty minutes a day, lengthened the median life of the worm *C. elegans* by sixty per cent, from ten days to sixteen, and kept its mitochondria young; light at 808 nm at the same power did nothing (Shao and colleagues, Bo Song's group, with Hefei, Imperial College London and Fudan, 2026).

A light that works by the clock. A single three-minute exposure to **670 nm** light improved colour vision in older people by about 17 per cent when given between 8 and 9 in the morning, and not at all when given at noon (Shinhmar and colleagues, Glen Jeffery's group, *Scientific Reports*, 2021).

That is what is known, given in full because what follows reads every part.

PART II — THE MEDIUM IS THE CLOCK

5. The refractive index is the T-time dilation factor

Physics defines the refractive index as the ratio of light's speed outside a medium to its speed inside. The Universal Force of Time keeps the arithmetic and changes its meaning. The speed outside is not the speed of a photon; it is the T-flow rate of the Earth's surface register. When light slows inside a medium, it does so because the T-field is denser there — T flowing through density flows more slowly, the way a river slows as it enters the shallows. The photon meets no resistance; it rides a slower T-current. **So n is the T-time dilation factor of the medium**: the T-flow rate inside is 1/n of the air rate, and whatever lives wholly inside runs at 1/n of the air rate per calendar second. The medium is the clock; the number n sets how fast it runs.

For water, n = 4/3 [$2^2/3$], and the rate inside is **3/4** — exactly, because 4/3 is a lattice identity, not a measurement. The flow of time in water is the surface speed of light, 299,789,233.6830893 m/s [$2^3 \cdot 3^5 \cdot 5^6 \cdot \pi^2$], times 3/4: **224,841,925.2623170 m/s** [$2 \cdot 3^6 \cdot 5^6 \cdot \pi^2$]. Every process unfolding inside water is granted a third more T-time per calendar second to do its work.

6. The media life uses sit on the lattice

The lattice fixes which dilation factors name stable media: an index built only of twos, threes and fives names a node at which reality can hold a coherent register; one that is not has no node to hold. The three media that matter most to life sit exactly on it: **water**, cytoplasm and every body fluid, n = 4/3 [$2^2/3$]; **glass**, silicate and the eye's lens, n = 3/2; **calcite**, aragonite and the biomineral shell, n = 5/3. Cells use water, eyes use glass-like lenses, shells use calcite — the hierarchy of biological structure maps onto the lattice of allowed indices. And the spacing is regular: from 4/3 to 3/2 is a step of **1/6** [1/(2·3)], and from 3/2 to 5/3 a step of 1/6 again — a difference that itself lands on the lattice.

7. Light entering the body keeps its frequency

When light passes from air into water its frequency does not change; its wavelength shortens by 3/4. The record holds the same principle as an axiom: **frequency is the same on every register; wavelength belongs to the register.** So every line the series quotes — the 670 nm of the eye, the 340 and 460 nm of NADH, the 222 nm of the far ultraviolet — is quoted as it is measured in air, and the body's water receives it at the same frequency and at three-quarters of the wavelength.

One example shows what that means. Hydrogen's blue Balmer line, Hβ, is **486 nm** [$2 \cdot 3^5$] in air. Carried into the body's water, its wavelength is 486 × 3/4 = **364.5 nm** [$3^6/2$] — **hydrogen's own Balmer limit**, exactly, the edge of the series the line belongs to. The line of hydrogen that the record calls the line of life arrives in the water of the body as the limit of its own series.

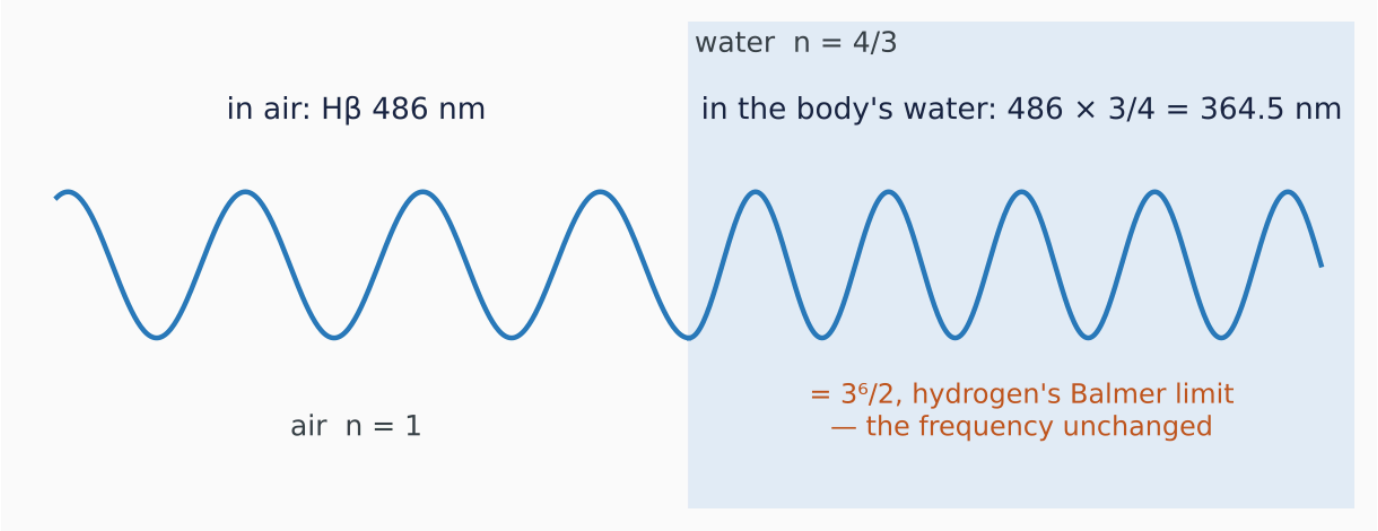


Figure 2 — Light entering the body's water keeps its frequency and shortens its wavelength by 3/4. Hydrogen's Hβ line, 486 nm in air, arrives in water at 364.5 nm — $3^6/2$, hydrogen's own Balmer limit.

8. The body keeps two clocks

You are a water-based being moving through an air-based world, so you live in two registers at once. The **external** register is air, at the full rate: sunlight, sound, the seasons, the passage of social time. The **internal** register is water, at three-quarters: DNA replication, protein folding, enzyme catalysis, the immune response — each cell granted a third more T-time per calendar second. That slower inner rate is not a flaw; it is what lets molecular machinery reach its precision. But the gap between the registers is also, in this reading, the driver of ageing: over decades the faster outer register grinds against the slower inner one, and the steady build-up of molecular damage is the slow victory of the air register over the water register. **Ageing is a register war, and the outer register eventually wins.** One air day lived on the water clock is 86,400 × 3/4 = **64,800 seconds** — eighteen air hours.

9. The two clocks across a life

Before birth the fetus lives in water alone — on the water clock, at 3/4, with no air register to fight. The observer counts the pregnancy in air: **270 days** [$2\cdot3^3\cdot5$], 6,480 hours. On the fetus's own clock the same span is **202.5 days** [$3^4\cdot5/2$], **4,860 hours** [$2^2\cdot3^5\cdot5$], **291,600 minutes** [540^2], **17,496,000 seconds** [$2^6\cdot3^7\cdot5^3$] (Stephen Daubney's ruling of 26 September 2026: the observer's 270 is the air count; the fetus's own count is the water count). Any lattice number times 3/4 is a lattice number, so that much is not evidence. The evidence is where the counts land: 4,860 hours carries **486**, the node of hydrogen's Hβ line; and 17,496,000 seconds carries **1.7496**, which, times the 703 step, is **1.750830053339597** arcseconds — the Sun's bending of starlight.

The first breath brings the air register. Birth is the start of the two clocks — and so, in this reading, the start of ageing.

At death the body does not have one age. Each part carries the age of its own clock: a water part is three-quarters of the calendar age — **60 at 80**; a part on the lens rung, two-thirds — 53.3333…; a part on the shell rung, three-fifths — 48. The water parts are those held in water most completely: the amniotic fluid, the vitreous humour of the eye, the cerebrospinal fluid, the blood plasma, the interior of every cell. The rule is stated part by part; no blended whole-body figure is claimed. The vitreous humour, almost pure water and sealed, already carries a chemical clock that forensic science reads after death — the natural place to test it.

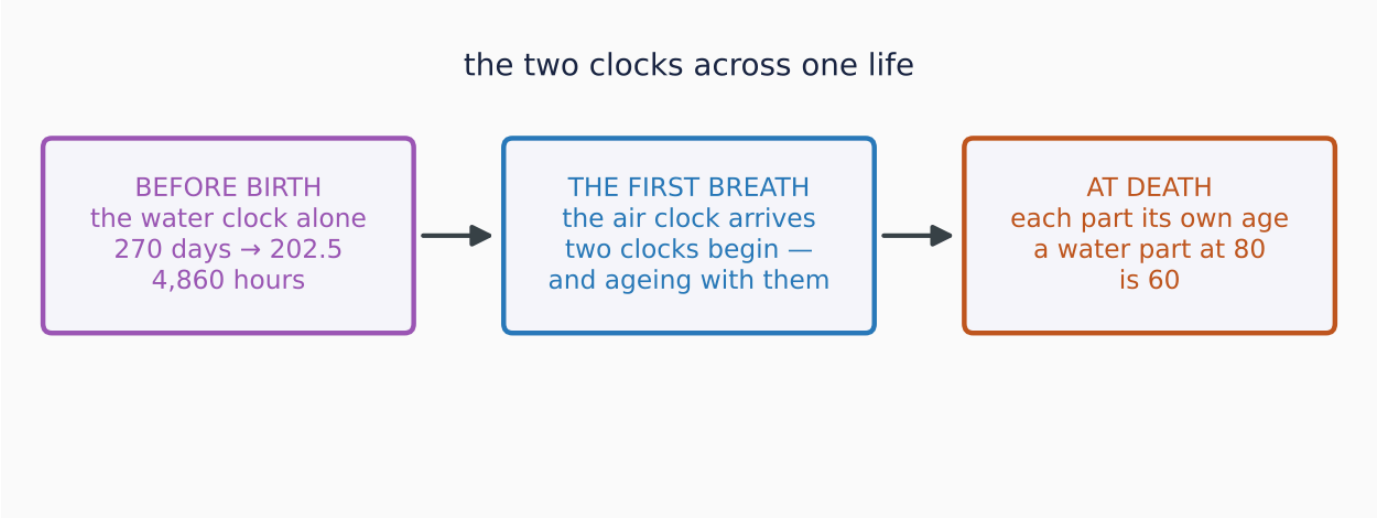


Figure 3 — The two clocks across one life. Before birth, the water clock alone: the observer's 270 days are the fetus's 202.5, its 4,860 hours. From the first breath, both clocks — and ageing. At death, each part its own age.

10. Why the shark outlives the mouse

The Greenland shark lives at 200 to 600 metres in near-freezing water. Cold, deep water has an index a little above 4/3 — pressure compresses the water lattice and the cold sharpens the register — so its rate runs below three-quarters. And the shark lives wholly inside it: its inner and outer registers are the same, both water, both slow. It never suffers the register split that ages land animals. The pattern runs across the tree of life: the longest-lived animals are aquatic or cold-blooded; the shortest-lived are small, warm-blooded and on land, their inner chemistry pushed toward the outer rate. **The mouse lives two years; the shark lives four hundred.**

11. Life began in water

Self-replication demands chemistry of extraordinary complexity, and every step needs the molecular actors to find one another, test, and bind or part — fast chemistry that must nonetheless be accurate. In water each reaction has a third more T-time per calendar second: a molecule has longer to find its partner, a cycle longer to close, an error-correcting step longer to catch a mismatched base. **Life began in water not because water is convenient but because water's dilation factor grants the temporal margin self-replication requires** — and every organism still runs its essential chemistry in that register, because the register is necessary.

12. One n, two effects — the free-fall consequence

In the theory the surface free fall and the surface speed of light are one phenomenon read in two domains: $\mathbf{g_1 = \sqrt{(c_1 / (864 \times 3600))} = 9.817477042468104\ m/s^2}$ [25π/8]. If the T-flow rate inside a medium is c_1/n, its T-free fall is $\mathbf{g_1/\sqrt{n}}$: 8.502184519847896 m/s² in water, 8.015936438511651 in glass, 7.604585017450522 in calcite. These are register values — the rate at which T itself flows through the medium, in metres per second, every second — not the fall of a dropped object, which buoyancy and drag reduce further. One number, n, fixes both how fast time flows in a medium and how strong its T-free fall is.

PART III — AGEING: THREE ROUTES, THREE CORRECTIONS

13. One register war, three ways it is lost

A medical paper of the Universal Force of Time acknowledges the illness, reads the problem as the distinct routes by which it arises, and pairs each route with the correction that would set it right. The illness here is ageing itself — the register war between the body's water clock and the air clock outside. It is lost by three routes: the water register can **thin**, its keeper can **run out**, or its clock can **lose the day**.

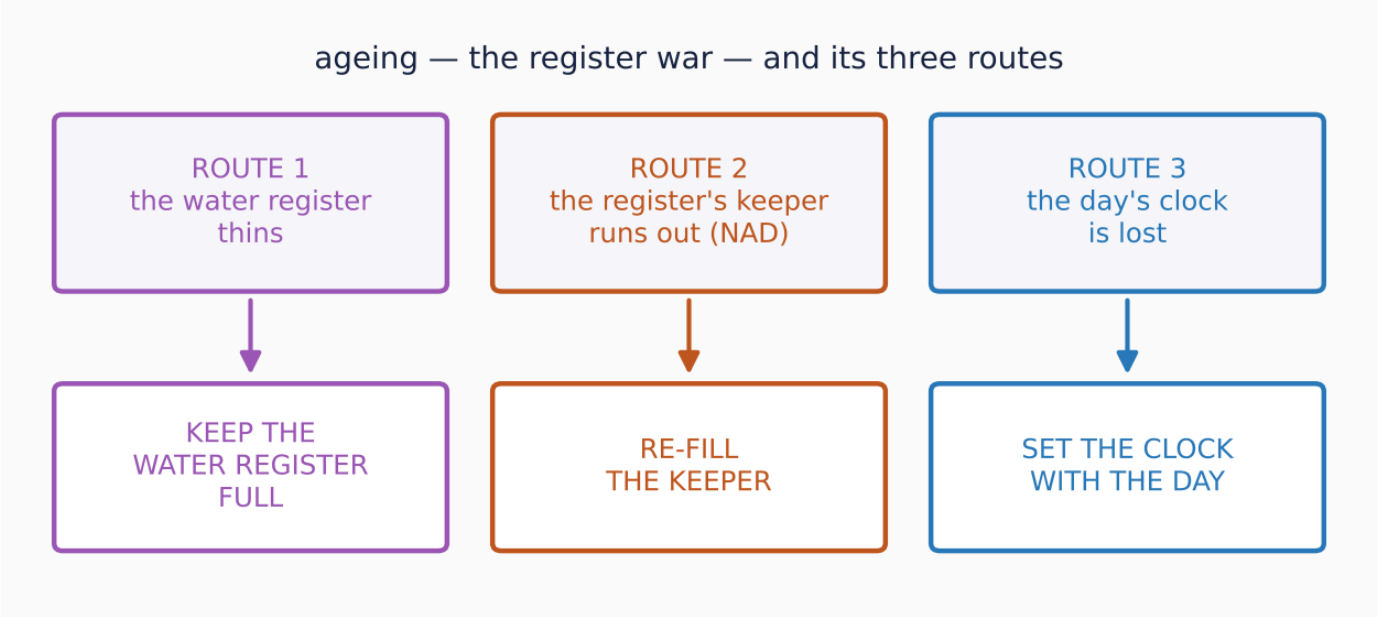


Figure 4 — Ageing as a register war, lost three ways: the water register thins; its keeper, NAD, runs out; the day's clock is lost. Each route is paired with its correction.

14. Route 1 — the water register thins

The slower inner clock holds only where the body is held in water. A body that dries — through age, illness or neglect — has less of its volume on the three-quarter rate and drifts toward the outer rate, and its cells age faster. In this reading, that is why hydration tracks longevity.

Correction 1 — keep the water register full. If the fault is a thinning water register, the correction is to keep more of the body on it: to hold its fluids, and so more of its cells at the three-quarter rate. The principle is the fullness of the water register; the specifics are held in the Foundation's clinical reference.

15. Route 2 — the register's keeper runs out

The water register is kept in order by enzymes that spend NAD^+ to keep the genome's addresses sharp, and NAD^+ falls by about half $[2 \cdot 5^2]$ across the forty years $[2^3 \cdot 5]$ from twenty to sixty. As it falls the keepers slow and the addresses drift — the inner register loses its upkeep while the outer one grinds on. The companion paper, *NAD and the Redox Register*, reads this route in full, and finds in NADH's own light the lines of Mercury's orbit.

Correction 2 — re-fill the keeper. If the fault is a keeper running out, the correction is to re-fill its pool so that the maintenance restarts. And the research points to the mitochondria where the keeper does its work: a frequency at 34.1 THz — in the theory, Mercury's orbit read as light, **34.0853891346 THz** — lengthened a creature's life by sixty per cent while its neighbour at the same power did nothing. The principle is re-filling the keeper; the detail is held in the Foundation's clinical reference.

16. Route 3 — the clock loses the day

The body's registers are set each day by the day itself — the day is 86,400 seconds $[2^7 \cdot 3^3 \cdot 5^2]$, the ground state of the helix, and the body's clocks are set against it. A register that has lost the day runs on its own drift. The research shows how much the setting matters: one three-minute exposure to 670 nm light restored colour vision in the morning and did nothing at noon. In the theory, the morning is when the day's clock is set, and **when** a frequency is given is part of what it is.

Correction 3 — set the clock with the day. If the fault is a clock that has lost the day, the correction is to set it with the day again — to give the registers the day's signal when the day sets them. The principle is setting the clock by the day; the detail is held in the Foundation's clinical reference.

17. The order law

The three corrections bind in a fixed order. **The water before the keeper**: the keeper maintains the water register, and a thinning register gives it less to keep. **The keeper before the clock**: a clock set on a register that cannot be maintained will not hold. And **the clock is set every day**, because it is the one correction that does not stay done.

The direction of all three is the same — toward the slow, water-held clock the body was born on — and the order runs: keep the water full, re-fill the keeper, set the clock with the day.

18. The lines the theory offers the research

Where these results come from. The results this paper reads are not its discovery: the Greenland shark's age is Julius Nielsen's group's; NAD^+'s decline is the work of the groups in references 8 and 9; the 34.1 THz lifespan result is Bo Song's group's; the 670 nm morning result is Glen Jeffery's group's. It was their results that pointed this paper to the clock of ageing, and their work is the supporting evidence on which this part is built. What this paper adds is the theory's reading — and, within their frequencies, the exact lattice lines set out in the companion papers: 34.0853891346 and 34.0884619530 THz for the lifespan light; 669.9709631653324, 669.9936644397894 and 670.2064327658226 nm for the morning light — offered to those groups, and to any team so minded, to test. And because the body receives light at the same frequency and three-quarters of the wavelength, every one of those lines reaches the body's water as its three-quarter face.

19. The resolution — the clinical trial is the next step

Refraction is taught as a fact about light. The Universal Force of Time reveals it as a fact about time. The number that bends a straw in a glass is the number that sets how fast the body's water runs, why life began in the sea, how long a shark can live in the cold and the dark, and where hydrogen's line of life arrives inside us — at the limit of its own series. A life begins on the water clock alone; with the first breath the air clock arrives, and the gap between them is the quiet arithmetic of ageing; at death each part carries its own age. We have read ageing as three routes — the water thins, the keeper runs out, the clock loses the day — and given for each its correction, bound by the order law.

The corrections are stated as principles precisely because the next step is not to prescribe them to a reader but to put them to a clinical trial.

PROPOSITIONS

- **P-MEDIUM-1.** n is the T-time dilation factor of a medium: the T-flow rate inside a medium of index n is 1/n of the air rate.
- **P-MEDIUM-2.** Water: n = 4/3 [$2^2/3$]; its rate is 3/4. The flow of time in water is 224,841,925.2623170 m/s [$2\cdot3^6\cdot5^6\cdot\pi^2$].
- **P-MEDIUM-3.** Glass and the eye's lens: n = 3/2, rate 2/3. Calcite: n = 5/3, rate 3/5. The three biological media are spaced by 1/6 [1/(2·3)].
- **P-MEDIUM-4.** Light entering a medium keeps its frequency and shortens its wavelength by 1/n: frequency is the same on every register; wavelength belongs to the register.
- **P-MEDIUM-5.** Hydrogen's Hβ line, 486 nm [$2\cdot3^5$] in air, arrives in the body's water at 364.5 nm [$3^6/2$] — hydrogen's own Balmer limit, exactly.
- **P-MEDIUM-6.** The body lives in two registers at once — air outside at the full rate, water inside at 3/4 — and the gap between them is, in this reading, the mechanism of ageing.
- **P-MEDIUM-7.** One air day on the water clock is 64,800 seconds, eighteen air hours.
- **P-MEDIUM-8.** Birth is the start of the two clocks: the fetus lives on the water clock alone, and the first breath brings the air register.
- **P-MEDIUM-9.** Gestation on the water clock: the observer's 270 days are 202.5 days, 4,860 hours (carrying 486, the Hβ node) and 17,496,000 seconds (carrying 1.7496, which times the 703 step is 1.750830053339597 arcseconds, the Sun's bending of starlight).
- **P-MEDIUM-10.** Each part carries the age of its own clock: a water part is three-quarters of the calendar age — 60 at 80.
- **P-MEDIUM-11.** The Greenland shark lives past four centuries wholly on the slow water clock with no register split; the longest lives are aquatic or cold.
- **P-MEDIUM-12.** Life began in water because water's dilation factor grants the temporal margin self-replication requires.
- **P-MEDIUM-13.** g_medium = $g_1/\sqrt{n}$, with $g_1 = 25\pi/8$: one n sets both a medium's time rate and its T-free fall.
- **P-MEDIUM-14.** Ageing is lost by three routes — the water register thins, the keeper (NAD) runs out, the clock loses the day — answered by keeping the water full, re-filling the keeper, and setting the clock with the day.

- **P-MEDIUM-15.** Order law: the water before the keeper, the keeper before the clock, and the clock set every day.

REFERENCES

1. Daubney, S. *Health as Optimal T-Flow — The Universal Force of Time Medical Framework*, Revision 5. The Daubney Foundation (2026).
2. Daubney, S. *NAD and the Redox Register*, Revision 5. The Daubney Foundation (2026).
3. Daubney, S. *Eye Conditions*, Revision 5, and *The 34.1-Terahertz Line in the Universal Force of Time*, Revision 1. The Daubney Foundation (2026).
4. Daubney, S. *The Universal Fraunhofer Lines*, Revision 6. The Daubney Foundation (2026).
5. Daubney, S. *The T-Cascade — T-Free Fall and the Speed of Light as One Phenomenon*. The Daubney Foundation (2026).
6. Nielsen, J. *et al*. Eye lens radiocarbon reveals centuries of longevity in the Greenland shark (*Somniosus microcephalus*). *Science* 353, 702–704 (2016).
7. Daimon, M. and Masumura, A. Measurement of the refractive index of distilled water from the near-infrared region to the ultraviolet region. *Applied Optics* 46, 3811–3820 (2007).
8. Massudi, H., Grant, R., Braidy, N. *et al*. Age-associated changes in oxidative stress and NAD⁺ metabolism in human tissue. *PLoS ONE* 7(7), e42357 (2012).
9. Imai, S. and Guarente, L. NAD⁺ and sirtuins in aging and disease. *Trends in Cell Biology* 24, 464–471 (2014).
10. Shao, C. *et al*. (Song, B.) Mid-infrared light nonthermally produces anti-ageing effects through cellular efficiency enhancement in living organisms. *bioRxiv* (February 2026).
11. Shinhmar, H., Hogg, C., Neveu, M. and Jeffery, G. Weeklong improved colour contrasts sensitivity after single 670 nm exposures associated with enhanced mitochondrial function. *Scientific Reports* 11, 22872 (2021).

APPENDIX — EVERY NUMBER, REBUILT

Every value can be rebuilt with any calculator, from twos, threes, fives and π. The script MC_calc.py, run at forty-four digits, asserts every station; it passed in full.

```
THE MEDIA, NUMBER FIRST
   medium              index n      rate      T-free fall g1/sqrt(n) (m/s^2)
   air                 1            1         9.817477042468104   (g1 = 25pi/8)
   water / cytoplasm   4/3          3/4       8.502184519847896
   glass / lens        3/2          2/3       8.015936438511651
   calcite / shell     5/3          3/5       7.604585017450522

THE CLOCKS, NUMBER FIRST
   time in water                   224,841,925.2623170 m/s     2.3^6.5^6.pi^2
   one air day on the water clock  64,800 s                    2^5.3^4.5^2
   gestation, days ; hours         270 -> 202.5 ; 6,480 -> 4,860
   gestation, minutes ; seconds    388,800 -> 291,600 = 540^2 ; 23,328,000 -> 17,496,000
   1.7496 x the 703 step           1.750830053339597 arcsec    the Sun's bending of starlight
   age at 80: water ; lens ; shell 60 ; 53.3333... ; 48
   H-beta in water                 486 x 3/4 = 364.5 nm        3^6/2, the Balmer limit
```

A NOTE ON THE NUMBERS

Throughout this paper a value is given first as the plain physical reading and only then, in brackets, as its place on the {2,3,5,π} lattice. The refractive index is unusual in that the reading and the address nearly coincide: water's index is measured near 1.33, and its address is 4/3, which is why its reciprocal — the time rate 3/4 — is exact. Wavelengths are quoted as measured in air; inside the body's water each is three-quarters of its air value at the same frequency. The corrections are stated as principles; the corrective detail is held in the Foundation's clinical reference and is 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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