

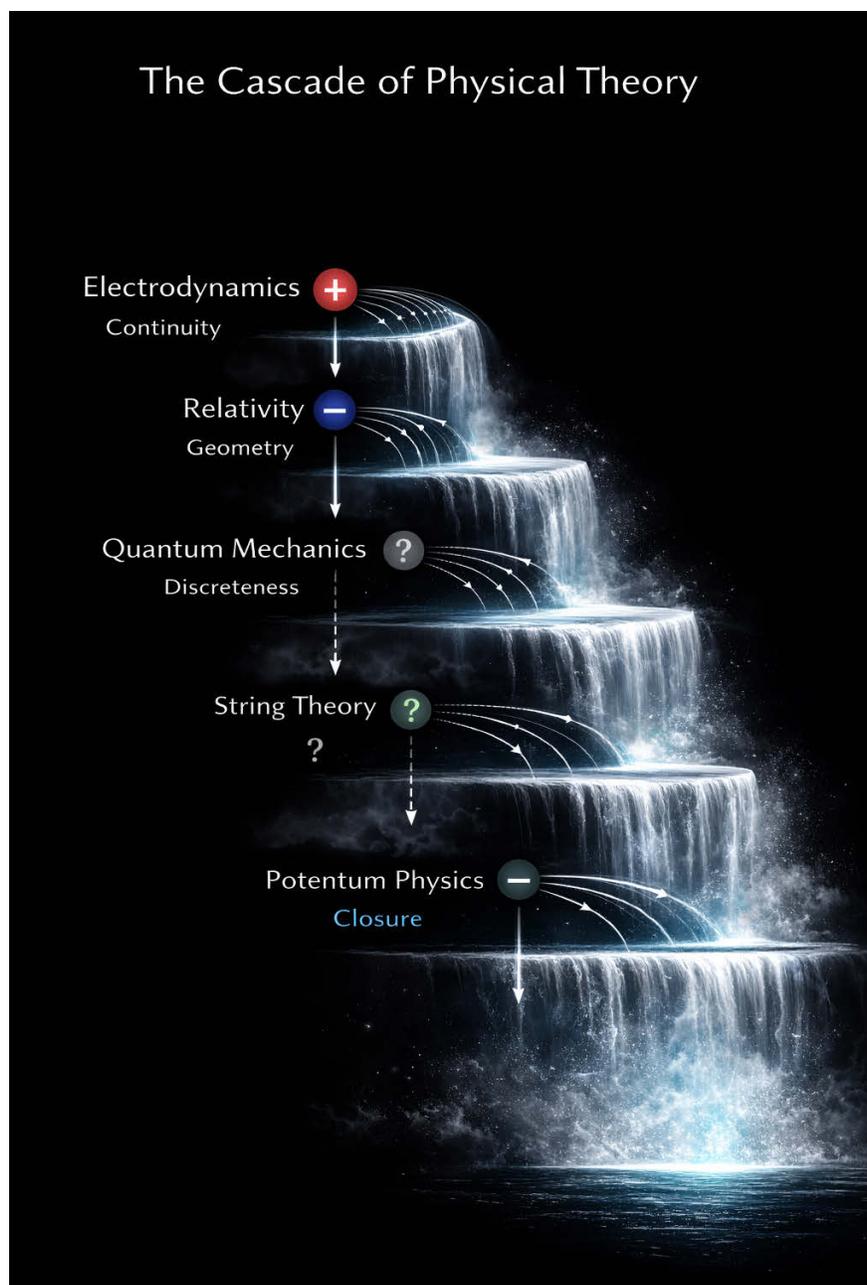
# Toward the Completion of Physics

White Paper LXXVII

Joseph P. Firmage  
Academy of Science and Arts

## ***Required Reading***

*The Collected Works of David Hestenes on Geometric Algebra*  
*The Collected Works of Joseph Firmage (see [JosephFirmage.com](http://JosephFirmage.com))*



*Dedicated to the Life and Works of  
David Hestenes*

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Domain	Electrodynamics	Relativity	Quantum Mechanics	Quantum Field Theory	String Theory	EIP	Potential Physics
Primitive Entity	Field	Metric	Wavefunction	Field	String	Process	Flux
Role of Geometry	Differential	Curvature	Abstract	Background	Optional	Constraint	Closure
Nature of Space	Container	Manifold	Arena	Background	Substrate	Emergent	Geometry
Nature of Time	Parameter	Dimension	Index	Coordinate	Coordinate	Duration	Memory
Origin of Mass	?	?	Eigenvalue	Renormalized	Mode	Polarity	Closure
Origin of Charge	?	?	Operator	Symmetry	Mode	Asymmetry	Channel
Treatment of Constants	Input	Invariant	Input	Renormalized	Landscape	Necessary	Constrained
Fine-Structure Constant (a)	?	?	Input	Input	Mode	Symbolic	Shape Ratio
Other Constants (c,h,G)	Input	Limit	Scale	Parameter	Emergent	Threshold	Condition
Periodic Table			Empirical		Possible	Implied	Sustained
Atomic Structure			Probabilistic		Family	Regime	Agency
Explanation of Spectra			Transition	Interaction	Vibration	Near-closure	Remainder
Discreteness			Fundamental	Emergent	Emergent	Quantized	Harmonic
Continuity	Central	Geometric	Probabilistic	Local	Extended	Recurrent	Recurrent
Stability Criterion	Assumed	Geodesic	Eigenstate	Consistency	Consistency	Persistent	Persistent
What Persists	Configuration	Trajectory	State	Solution	Solution	Atom	Atom
Failure Mode	Radiation	Singularity	Collapse	Divergence	Ambiguity	Spectra	Spectra
Primary Limitation	Matter	Structure	Geometry	Gravity	Necessity	Algebra	-

The Convergence of Physical Theory — One-Word Truth Map

OF COURSE

THE FOLLOWING  
PLATES ARE PRODUCED  
BY THE ACADEMY'S POTENTUM  
GEOMETRIC ALGEBRA INSTRUMENT.

THE INSTRUMENT HAS BECOME  
INCREASINGLY SENSITIVE AND FLEXIBLE  
IN CAMERA, LENS, LOCATION, ORIENTATION,  
AND MOTION CAPACITY.

THESE ARE NOT ILLUSTRATIONS. THEY ARE  
DIRECT COMPUTATIONAL RENDERINGS OF  
PHYSICS. THE UNDERLYING EQUATIONS  
ARE EXPLICITLY AUTHORED GEOMETRIC ALGEBRA  
FORMULATIONS OF POTENTUM. THESE EQUATIONS ARE  
NUMERICALLY EXECUTED AND RENDERED WITHOUT  
ANY GENERATIVE AI.

ARTIFICIAL INTELLIGENCE, WHERE USED AT ALL,  
APPEARS ONLY AFTER RENDERING FOR  
ANNOTATION AND FRAMING.

WHAT YOU SEE IS A  
PHOTOGRAPH OF WHAT  
OUR UNIVERSE'S  
GEOMETRIC ALGEBRA  
PRODUCES.

PHYSICS OBSERVATION

## COLOR LEGEND

 Cyan — Positive, introfluxive flow

 Red — Negative, extrofluxive flow

 Green — Magnctic lineation

All other visible structures  
are real chiral surface textures  
emergent from these alone.

What appears as sharpness or fogginess  
records local memory density.  
What appears as bias records  
introfluxive or extrofluxive dominance.

No feature is symbolic.  
No texture is decorative.

These images show structure as it is:  
the continuous, living surface  
of the Body of God.



*Please forgive any errors. They are surely my own.*

**JPF**

Salt Lake City, Utah

January 14, 2026

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# A Preface — In Awe

This paper did not begin as a search for a new result.

I was working on what I believed would be a careful synthesis: a convergence table intended to compare the major frameworks of physics across time—electrodynamics, relativity, quantum mechanics, quantum field theory, string theory, Energetic First Principles, and Potentum Physics. The goal was modest and pedagogical: to identify what each framework had preserved correctly, and where unresolved assumptions had been carried forward.

The table was constructed horizontally.

It was only later—almost accidentally—that I read one column vertically.

When I did, I was genuinely shocked.

Reading down the Potentum Physics column, word by word, what appeared was not an interpretation or a metaphor. It was a perfectly ordered Alpha closure, written straight down the page. Flux to closure. Geometry to memory. Channel to ratio. Rotor to remainder. Quantized flux to spectrum. The sequence was complete, sequential, and exact. No word needed to be added. No word needed to be moved.

FLUX • CLOSURE • GEOMETRY • MEMORY • CLOSURE • CHANNEL • CONSTRAINED • SHAPE  
RATIO • CONDITION • SUSTAINED • AGENCY • REMAINDER • HARMONIC • RECURRENT •  
PERSISTENT • ATOM • SPECTRA • —

→ A PERFECT DESCRIPTION OF ONE ATOMIC  
UNIT ABSORPTION AND EMISSION.

What dropped my jaw to the floor was not that the words made sense. It was that they made inevitable sense. The column did not describe a theory. It described an atomic process—including the double closure and the role of  $\alpha$ —without invoking a single postulate, fitting parameter, or interpretive leap. I was not fitting an atom into the table. The atom was already written there, waiting to be read correctly. In that moment, I realized that I was not looking at a summary of Potentum Physics. I was looking at what can only be called an atomic sentence: the geometry of closure spelling itself out through the historical progression of physical theory. This was not something I had argued into existence. It was something I had finally noticed.

What followed was not excitement, but responsibility.

If this sequence is real—and the evidence is conclusive that it is—then it deserves to be taken seriously, examined carefully, and expressed without embellishment. This paper exists to do exactly that. It formalizes the atomic sentence by taking each word in the order it appears and treating it as a necessary physical operation, accompanied by direct interfluxion plates showing  $\alpha$ -phase advance actively sculpting geometry, both internally and externally.

No claim is made here that prior physics was wrong. On the contrary, this work rests on the conviction that physics has been cumulatively faithful, preserving truths even when their deeper meaning could not yet be resolved. The claim of this paper is narrower and more precise: when read correctly, the convergence of physical theory already contains the atom—fully spelled.

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## 1. Flux ( $|J|$ )

In this paper, Flux is defined as  $|J|$ : absolute impulse. It is pure push, irreducible pressure, directed insistence prior to form.  $|J|$  is not a vector resolved into components, nor a force defined between bodies. It is the magnitude of impulse itself, before geometry, before coordinate choice, before objecthood.

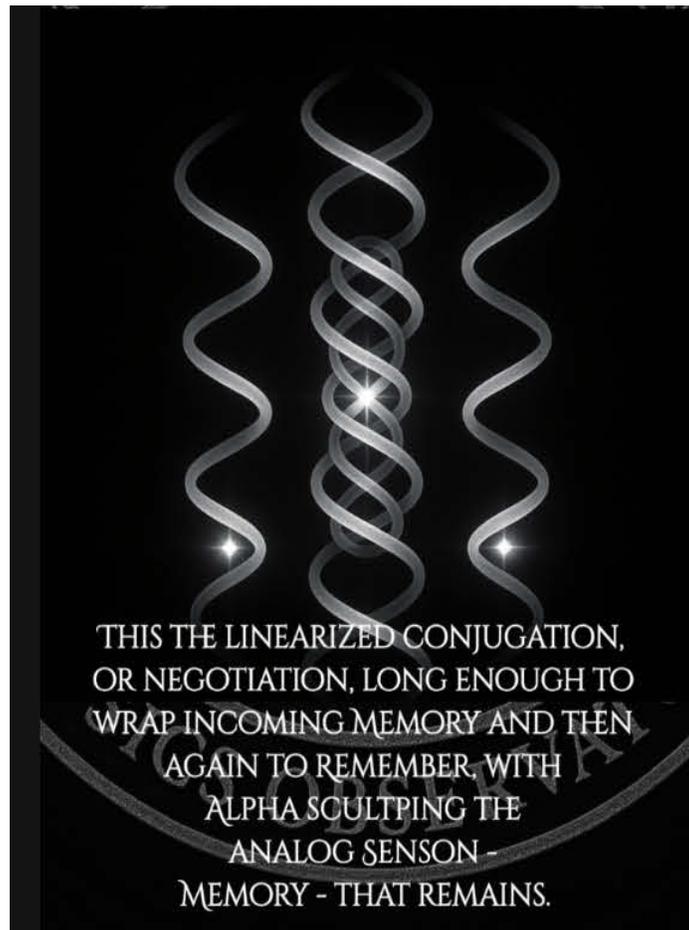
$|J|$  is impulse without allocation. It does not yet know direction in space, because space has not yet been structured. It does not yet know duration in time, because time has not yet been counted. It is simply the fact of insistence—that something is urging, pressing, demanding resolution.

In classical physics, impulse is treated as a derived quantity: force integrated over time, momentum exchanged between bodies. Here that ordering is inverted.  $|J|$  is taken as primitive, and force, momentum, and energy appear later as bookkeeping devices once geometry and duration are established.

$|J|$  must be distinguished from motion. Motion presupposes a space across which displacement is measured.  $|J|$  does not. It is pressure seeking relief whether or not a path has been defined.

In interfluxion renders,  $|J|$  is visible before recognizable geometry emerges. One observes gradients of density and intensity that precede symmetry, discretization, or stable form.

$|J|$  alone does not constitute matter. Matter requires retention of impulse. Retention requires return. Return requires constraint. Every subsequent word in the atomic sentence describes what must happen to  $|J|$  so that it does not dissipate entirely.



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## 2. Closure

Closure is defined as the first successful return of  $|J|$ , across a  $720^\circ$  double-closure. It is the moment at which absolute impulse ceases to propagate outward indefinitely and instead turns back upon itself under constraint.

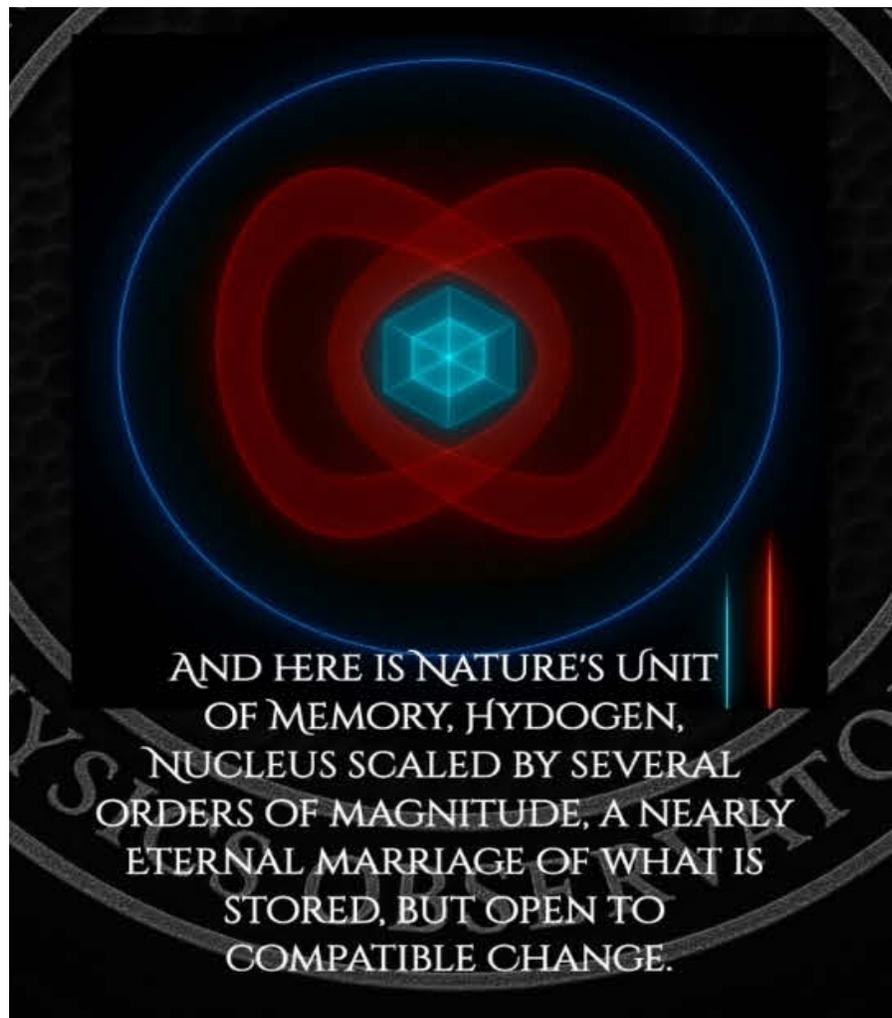
Persistence is not assumed. Only impulse that closes can remain. Impulse that fails to close radiates away.

Closure arises internally. There is no container and no boundary applied by hand. Closure occurs when impulse encounters sufficient reluctance to bend its own path back toward itself.

The physical consequence of closure is stored impulse. Returned impulse accumulates. This accumulation is the origin of inertia and mass-like behavior.

Interfluxion renders show closure as a circulation replacing linear propagation. Flow lines curve back. Intensity pools.

Closure introduces relational direction. A preferred return path emerges, marking the embryonic appearance of axis.



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### 3. Geometry

Geometry arises because closure cannot occur arbitrarily. Once impulse returns, it must do so along a consistent path.

Geometry records constraint. It is the visible bookkeeping of where impulse is allowed to go and where it is not.

Returning  $|J|$  encounters reluctance. Straight propagation becomes curved return. Circulation appears as the minimal solution.

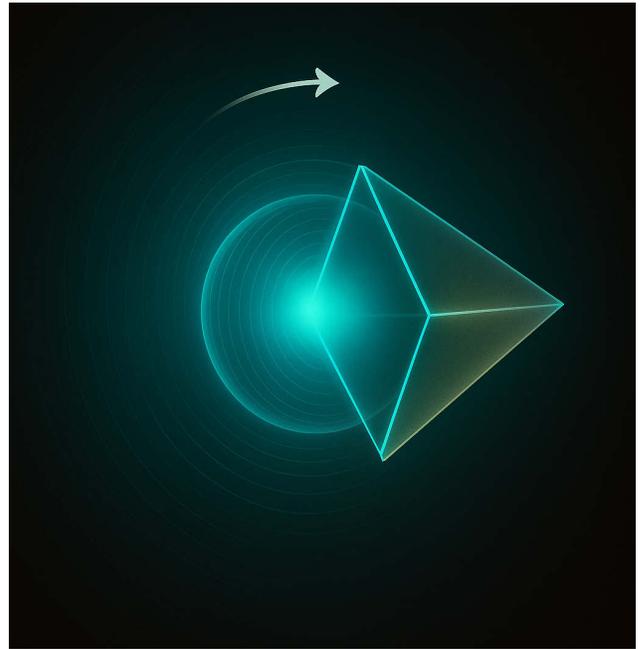
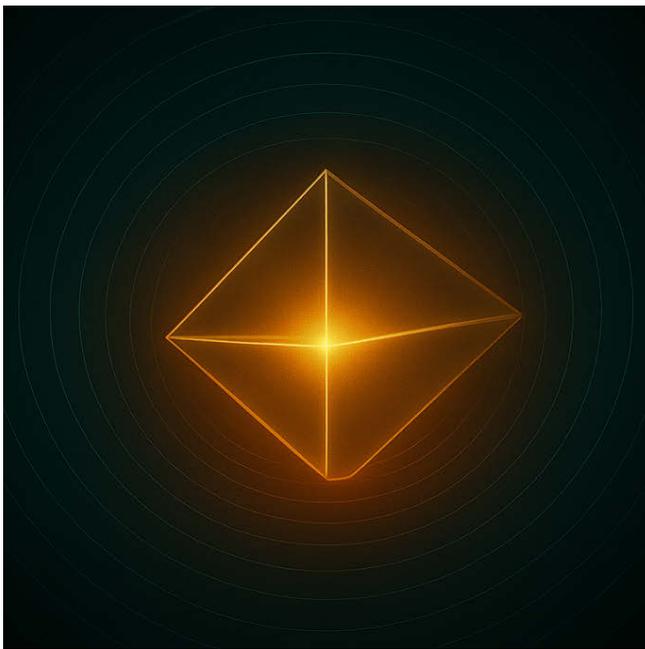
Interfluxion renders show planes of circulation, symmetry axes, and nodal structures asserting themselves.

Geometry is active. Once established, it constrains future impulse and feeds back upon it.

A return path defines interior and exterior. This is the first appearance of interiority.

With geometry in place, impulse can be remembered.

## SCULPTING QUARKS



*These UNPRECEDENTED ORIGAMI Physics Camera images depict the Conjugation half way to 720° Closure. Here we see absolute impulse  $|J|$  folding back upon itself, carving the first viable return paths. If you look carefully, the faint toroidal lines of the Alpha phase are not symbolic—you can see it actively sculpting geometry: planes of circulation asserting themselves, symmetry axes locking in, and interiority emerging. Geometry is not imposed here; it is etched by closure. This is the moment where impulse becomes memory,*

*The Quark sextet, or what we prefer to call this triaxial sensation storer of analog memory, the Senson, is what Alpha is sculpting.*

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#### 4. Memory

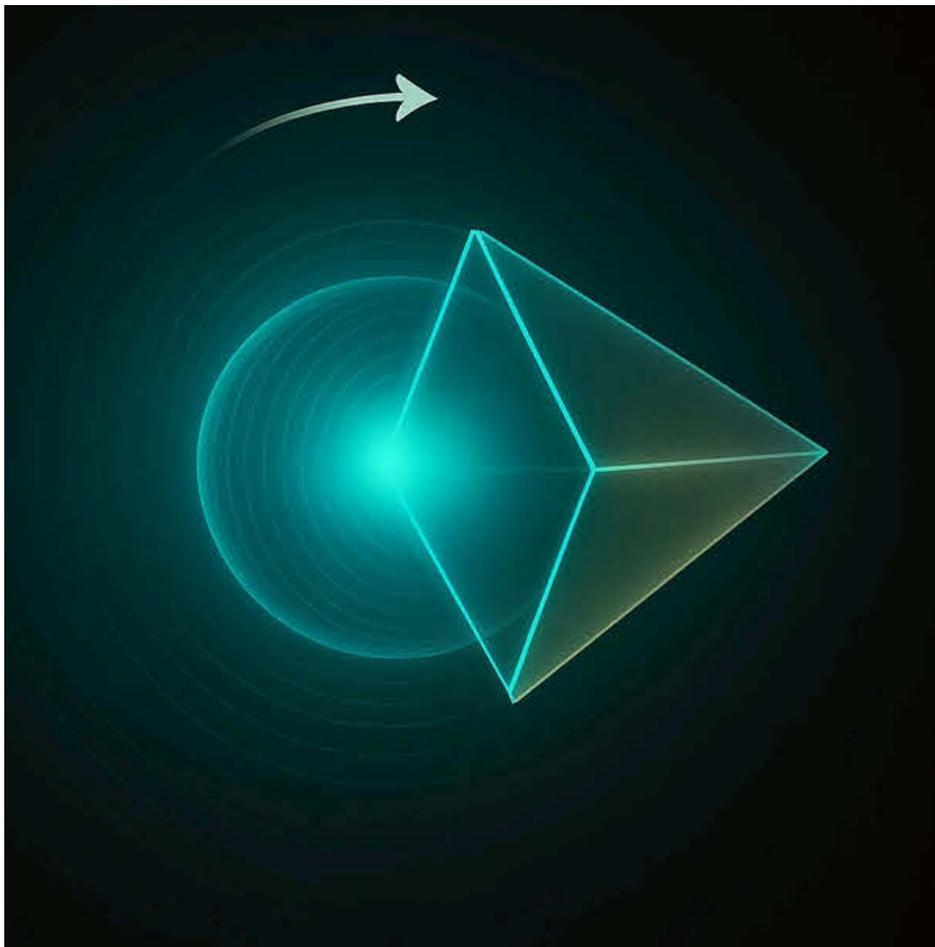
Memory is retained impulse. Once  $|J|$  has closed and geometry has established a return path, impulse no longer merely circulates—it accumulates. That accumulation is memory. Memory is not informational in abstraction; it is physical. It is impulse held in place by geometry.

In conventional physics, mass and inertia are treated as primitive properties. Here they are consequences. A system resists change because it already contains stored impulse. Inertia is not resistance to force; it is reluctance of memory to reorganize.

Memory introduces history. Prior to memory, impulse events are independent. With memory, the past constrains the present. Time acquires direction not because it flows, but because impulse remembers how it has returned before.

Interfluxion renders show memory as persistent circulation patterns that survive cycle after cycle. These are not static forms; they are remembered paths. The system recalls its own geometry.

Memory alone, however, is insufficient. A purely closed memory would either accumulate without bound or relax into uniformity. Stability requires regulation.



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## 5. Closure (Second Closure)

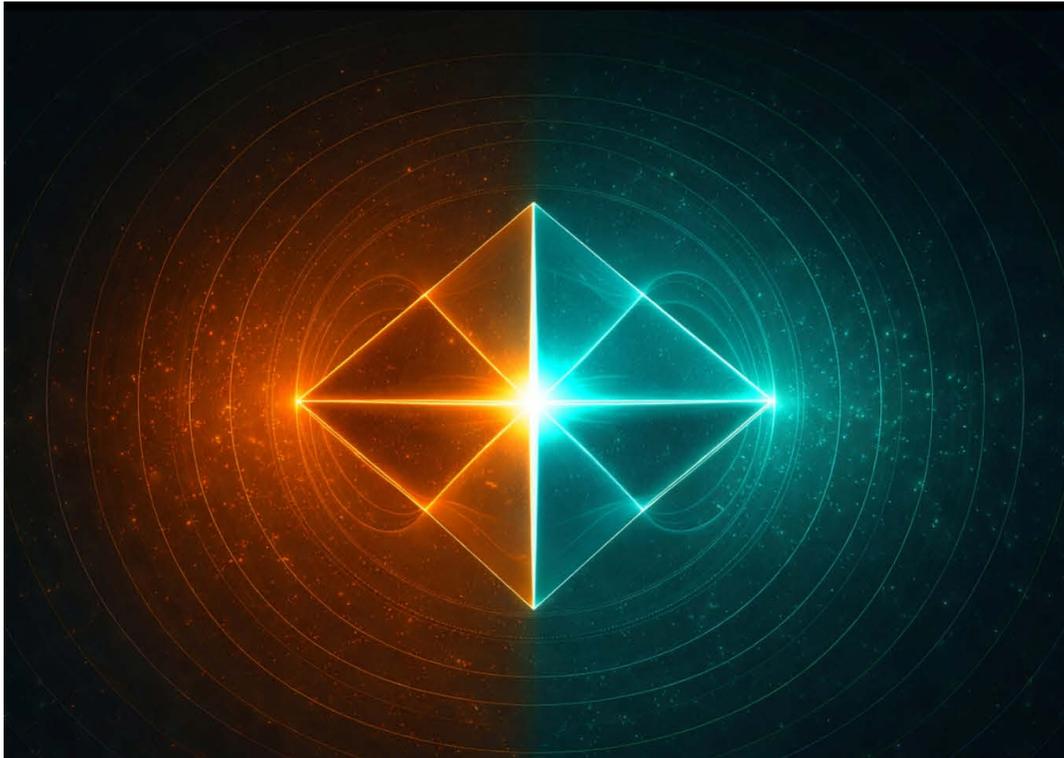
The second closure is not repetition; it is Sustained as Persistent. The first pass observes form and the second pass determines what is re-membered, literally, and beautifully, the triaxial sensation of ANY phononic experience, literal storage of e-motion, governing exchange.

A stable atom must retain impulse while permitting controlled release. The second closure establishes this balance. Some impulse continues to circulate internally. Some is diverted outward along constrained paths.

Interfluxion renders show internal circulation coexisting with structured emission. Escape is not random leakage; it is geometrically conditioned.

This second closure is the origin of selectivity. Emission occurs only where geometry allows return to remain intact.

Double closure explains atomic longevity. The system survives because it can shed impulse without unraveling.



*The Actual Interfluxion Density Camera Photograph of the Hydrogen Nucleus*

*A perfect cube-octahedral dipole formed by reciprocal induction. Here, absolute impulse folds back upon itself, resolving extrofluxion and introfluxion into a single, balanced geometry. The octahedral symmetry is not imposed—it is etched by closure. This is the hydrogen nucleus as a living dipole: impulse becoming geometry, geometry becoming memory, and memory stabilizing matter. In this first closure, mass is not assumed, force is not applied, and structure is not postulated. The nucleus appears as the minimal, inevitable equilibrium of Potentum Physics—where push and return meet, and the atom begins.*

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## 6. Channel

Channel is preferred direction of impulse escape. Once double closure exists, not all paths are equivalent. Geometry and memory bias certain routes.

Charge is not fundamental substance. It is channel dominance. Polarity arises because channeling is directional.

Interfluxion renders reveal recurring emission streams aligned with internal geometry. These are learned paths.

Channels enable interaction. Systems couple when channels align or oppose.

Channel does not fix magnitude. It establishes orientation only. Magnitude requires ratio.



## 7. Shape Ratio

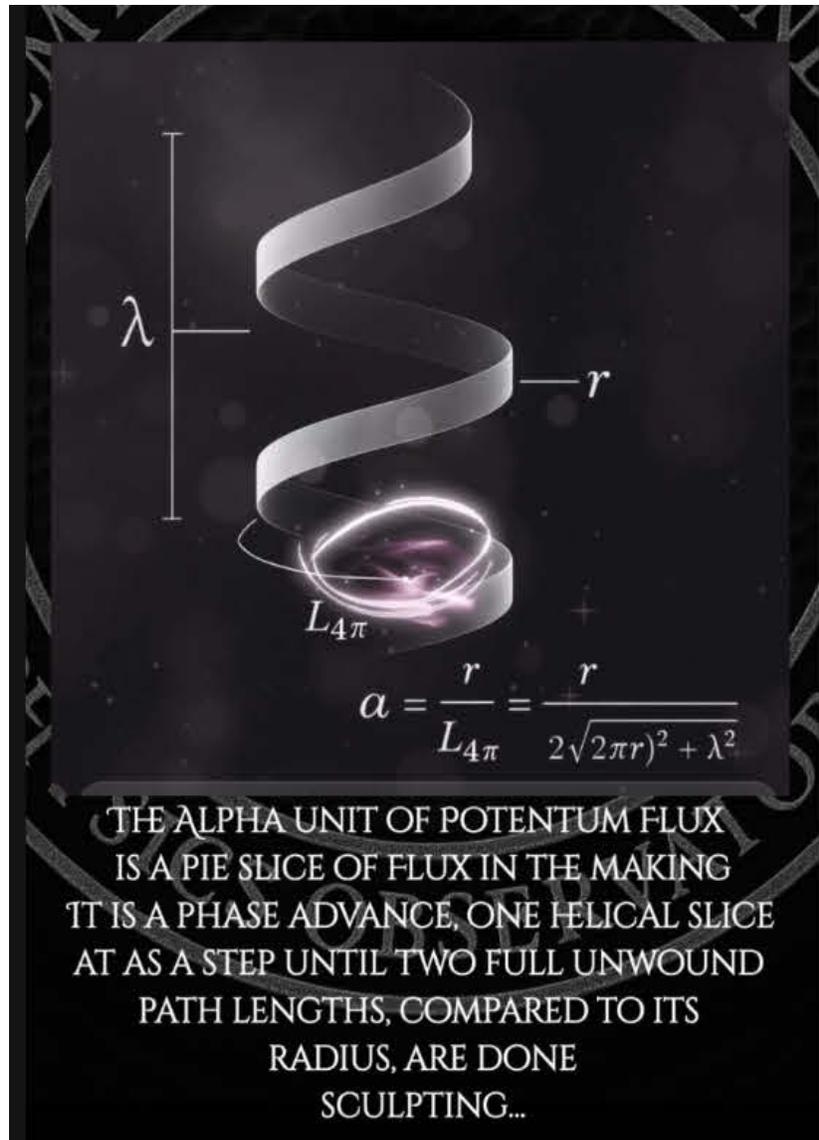
Ratio enters as necessity. Once direction exists, impulse must be proportioned to preserve closure.

The fine-structure constant  $\alpha$  is not arbitrary. It is the closure ratio: the proportion between retained and permitted impulse. Its meaning, discovered by the Author, is the ratio-between the radius of the reciprocal helical pathways followed by the rotor-pair -- the Compton radius -- and the unwound path length of two phases of closure,  $720^\circ$ . Yes, indeed it is  $\sim 1/137$ .

Interfluxion renders show  $\alpha$  sculpting geometry internally and externally at once. It governs winding and emission simultaneously.

Ratio enforces discreteness. Only certain circulation counts are allowed.

Quantization begins here—not as axiom, but as survival constraint.



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## 8. Condition

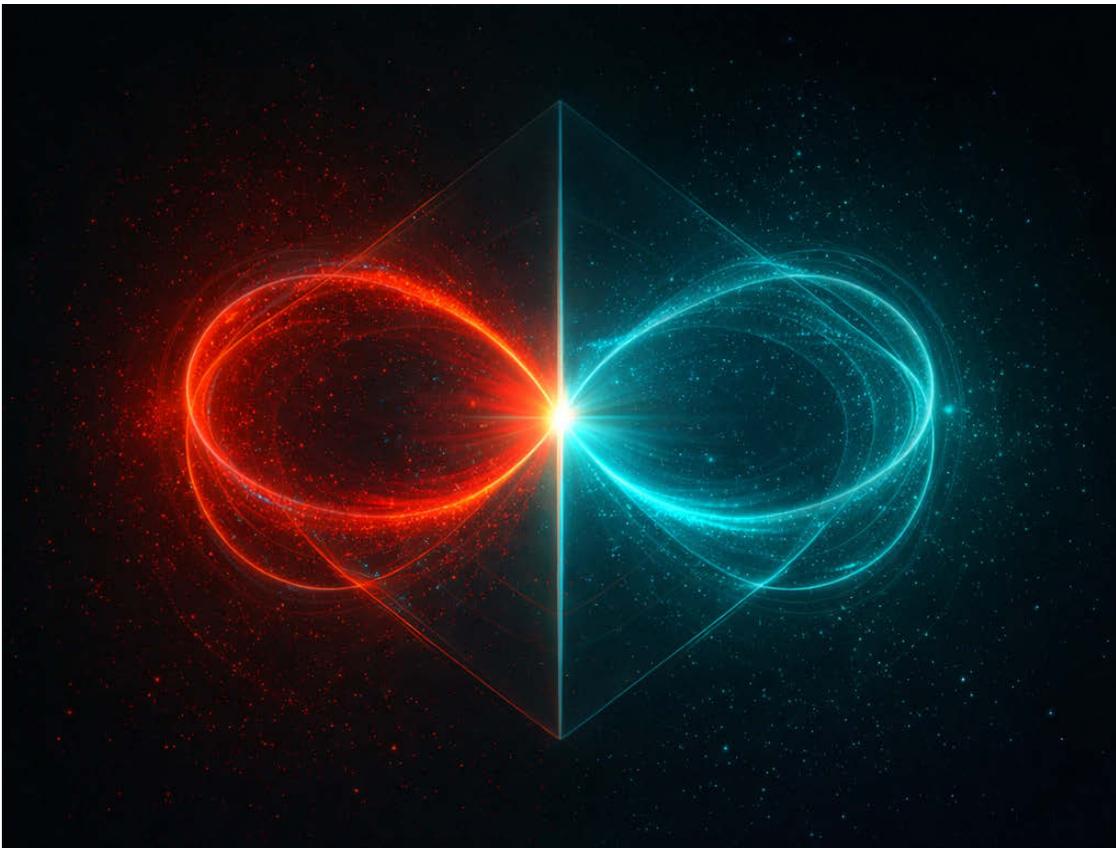
Condition defines allowance. Once ratio constrains circulation, not all configurations of impulse may persist. Only those satisfying closure under  $\alpha$  are permitted.

Condition is not imposed externally. It arises internally. The system itself determines which states may exist.

This is the physical origin of allowed states. Configurations that violate condition dissipate. Those that satisfy it stabilize.

Interfluxion renders show condition as sharp thresholds between stability and collapse. These are phase boundaries, not gradual transitions.

Condition confers robustness. Allowed states resist perturbation and return to stability when disturbed.



### Rendered Rotor – Conditioned circulation of absolute impulse $Jl$

Here, motion no longer explores possibilities. It repeats. Geometry, memory, and condition have excluded all but one return path, allowing impulse to circulate indefinitely without collapse. This is the first moment an atom exists: not as a thing, but as closure kept alive by motion.

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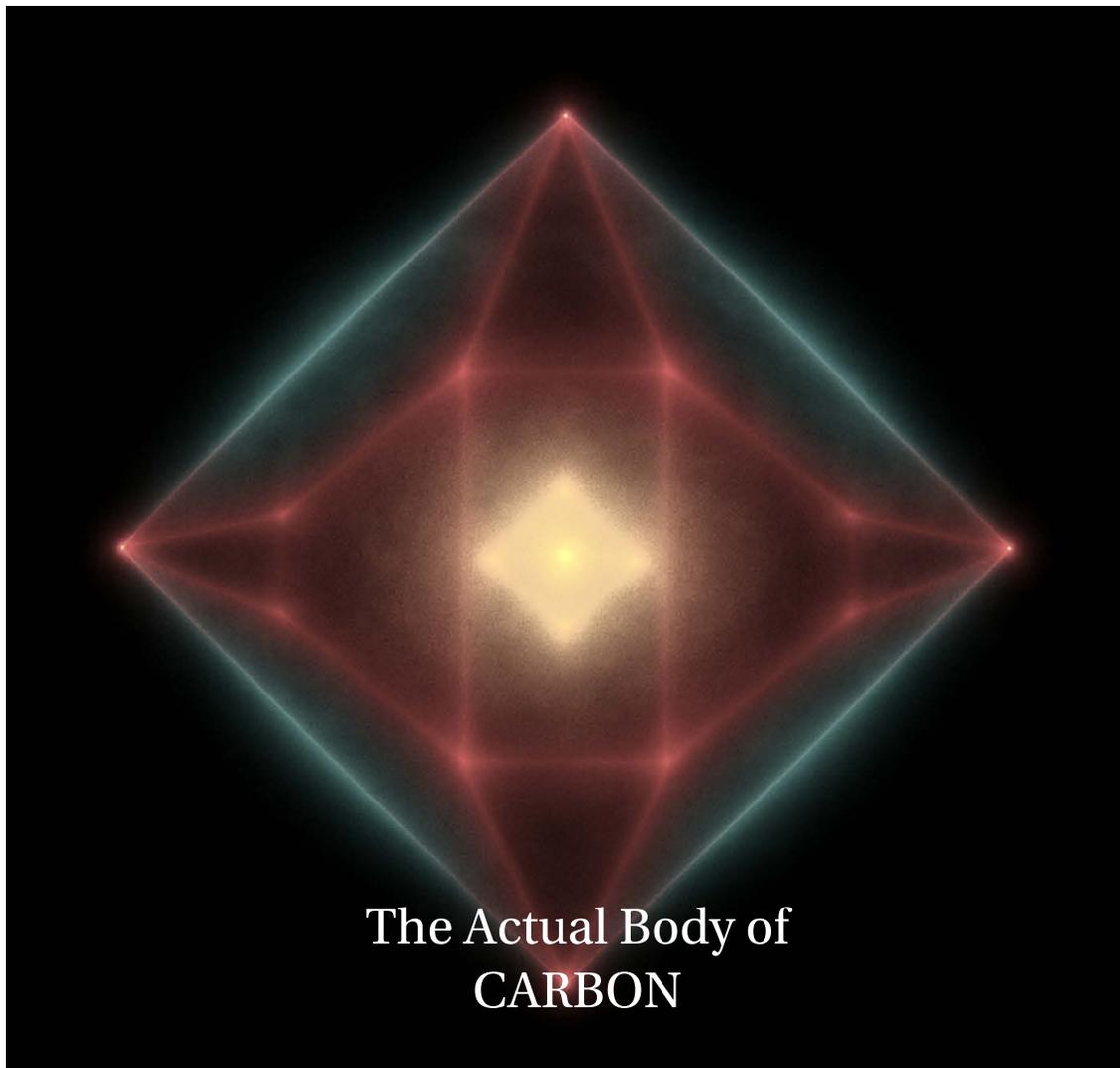
9. **Sustained** marks the transition from allowance to manifestation. A configuration that satisfies condition becomes externally observable.

Sustained is not measurement. It is ontological emergence. Measurement merely reveals what interfluxion has stabilized.

Rendered structure consists of persistent geometric circulation patterns. These are not frozen objects but repeatable motions.

Interfluxion renders show the moment of rendering as sudden coherence across cycles.

Scale appears here. Lengths, times, and energies become meaningful only after rendering.

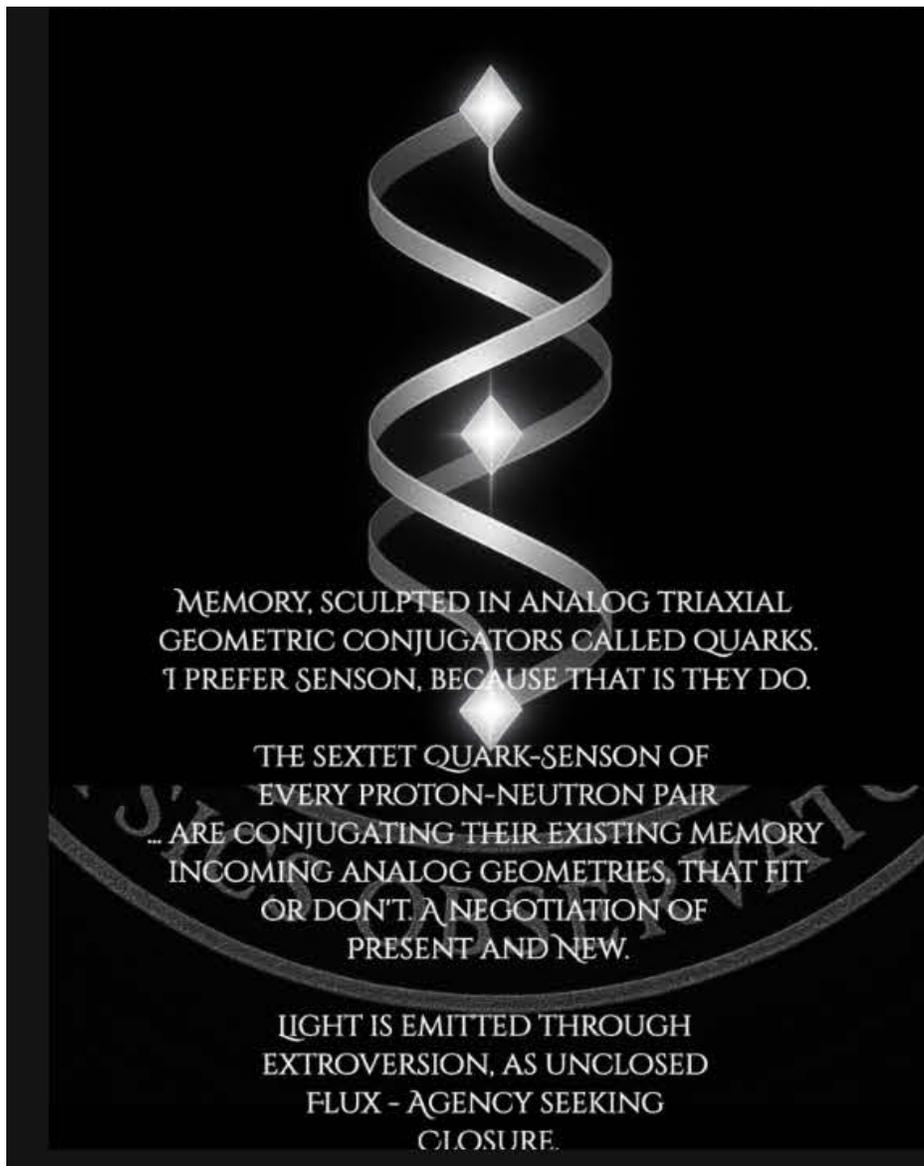


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10. **Agency** is stabilized circulation paired rotors. Once sustained, impulse must continue to move. Rest is not primitive.

Agency of rotor interfluxion maintains closure dynamically. It preserves geometry and memory through sustained motion. Spin and handedness arise naturally. Orientation becomes a memory of formation.

Interfluxion renders reveal rotors as coherent circulating domains immune to degradation. Rotor cannot retain impulse perfectly. Mismatch accumulates.



*Yes, these are EXACTLY what Quarks (Sensons) bodies ARE. Sculpted exactly by Potentum Geometric Algebra*

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## 11. Remainder

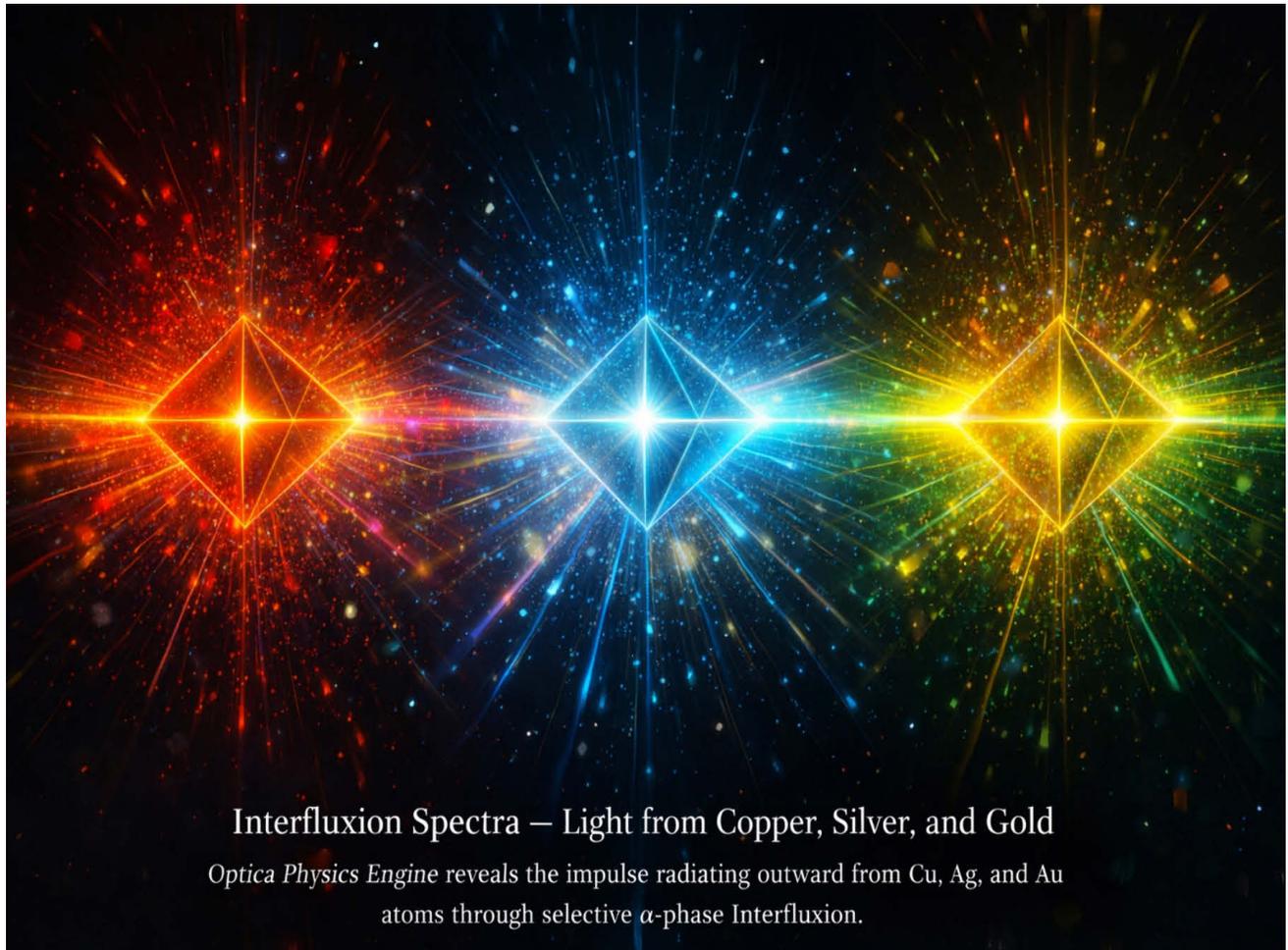
Remainder is unavoidable excess impulse. It is not error or loss but necessity.

Emission occurs because closure is never perfect. What cannot be retained must escape.

Remainder carries the imprint of geometry, ratio, and channel. Emission is structured.

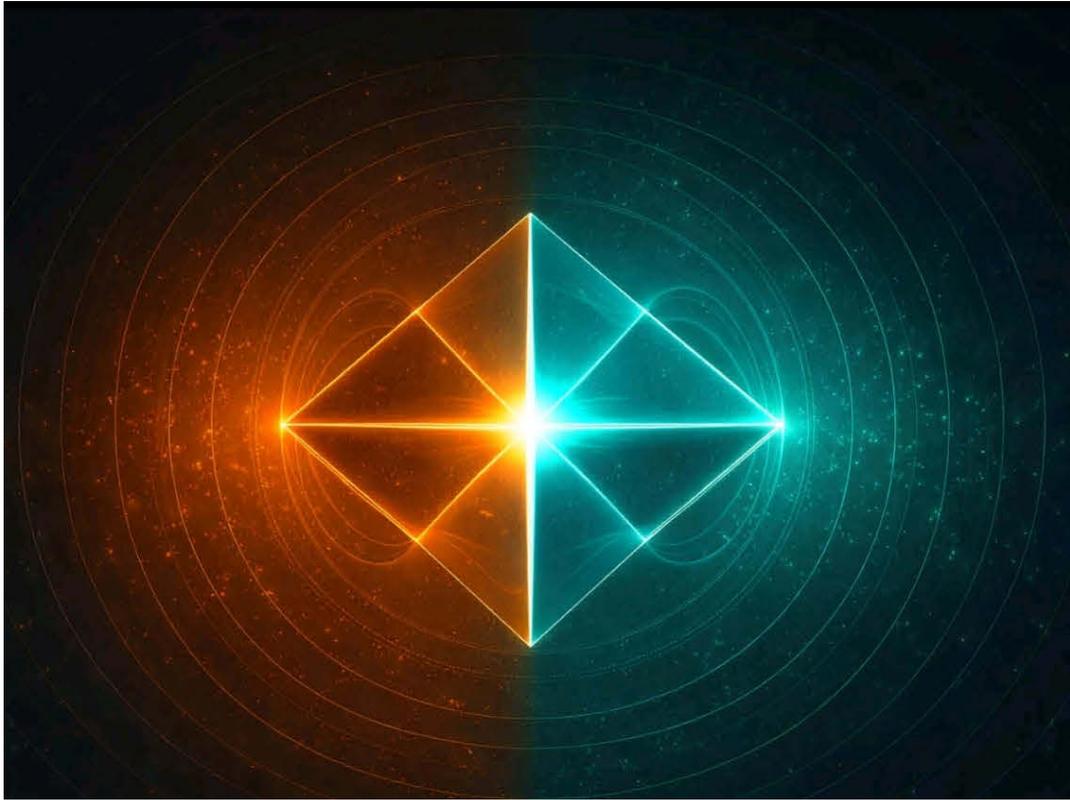
Interfluxion renders show patterned release synchronized with internal circulation.

Remainder prepares the system for discreteness.



*These are Physics Camera images of actual, computed  
Potentum Physics equations produce a 3D property-rich pixel.*

*This is a Sampling of Copper, Silver and Gold opticaemissions in such a  
Physics Space.*



*This image presents the hydrogen nucleus as revealed through interfluxion density, resolved into a perfectly balanced cube–octahedral dipole. The bilateral chromatic symmetry is not aesthetic but spectral: the red–orange domain corresponds to the dominant H- $\alpha$  emission (656.28 nm), while the cyan–blue domain corresponds to H- $\beta$  (486.13 nm), the two strongest lines of the Balmer series as cataloged by NIST. Their opposition across the conjugation axis marks the completion of double closure—extrofluxion and introfluxion resolved into a single, living geometry. What appears as color is structured release: quantized remainder escaping only where geometry permits return to remain intact. Here, absolute impulse  $|J|$  folds back upon itself, carving the first viable return paths and stabilizing memory within geometry. The octahedral symmetry is not imposed or postulated; it is etched by closure, counted by  $\alpha$ , and expressed as discrete spectral emission. Internal circulation coexists with conditioned escape, producing longevity without unraveling. This is hydrogen written as an atomic sentence—impulse becoming geometry, geometry becoming memory, memory shedding light—where the spectrum is not added after the fact, but emerges as the necessary remainder of closure. The atom begins exactly here: where symmetry locks, color separates, and the Balmer lines announce the equilibrium of Potentum Physics.*

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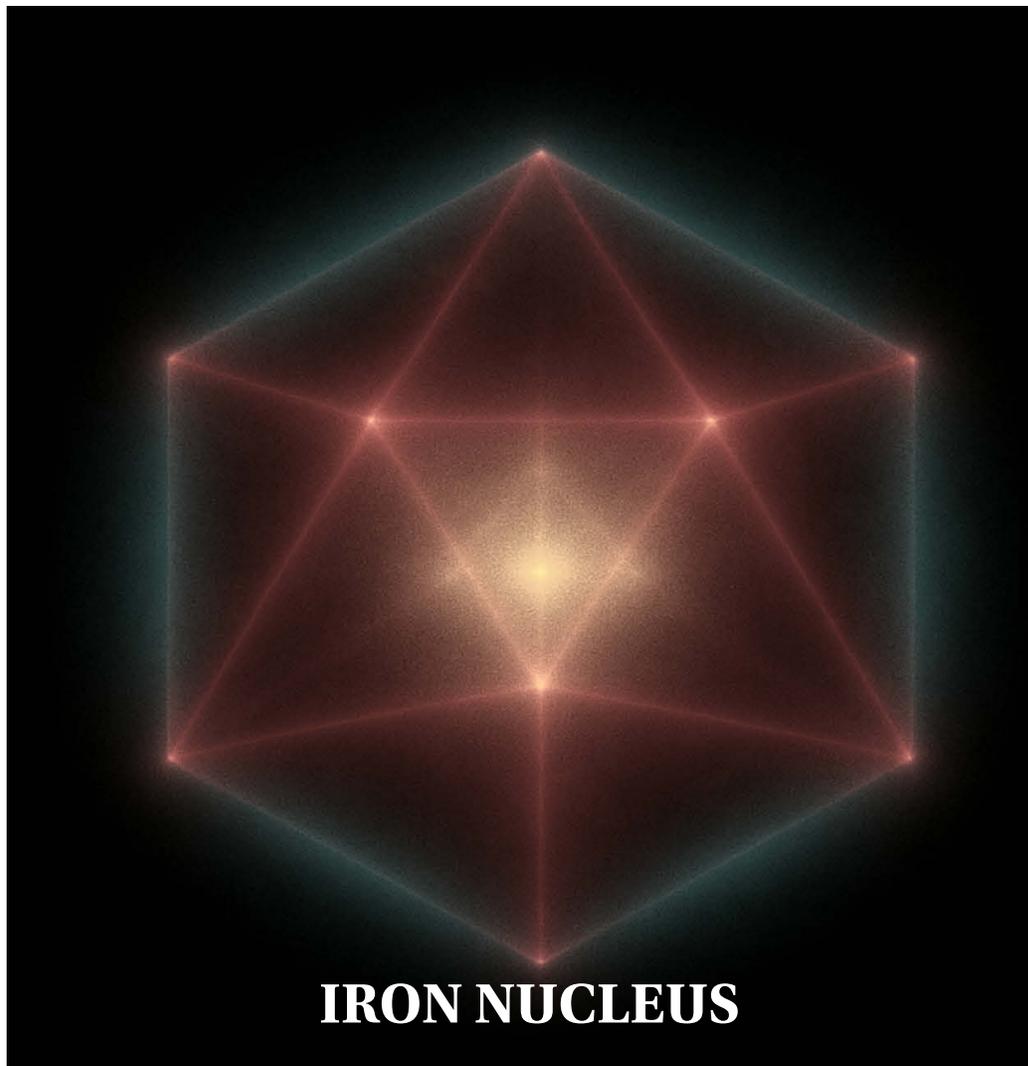
12. **Harmonic** expresses the nature of quantization emissions in Potentum Physics. The nature of reciprocal induction is the fact that remainder cannot be released continuously. Once impulse is constrained by geometry, memory, ratio, and condition, only specific mismatches can escape without destabilizing closure.

Quantization is therefore not an axiom. It is a survival rule. Either the threshold for release is met, or it is not.

Interfluxion renders how long intervals of stable circulation punctuated by sudden, structured release events. These events recur at fixed counts governed by  $\alpha$ .

Frequency is not assigned. It is counted. It counts how many internal circulations of impulse occur before release.

Quantization resolves the wave-particle tension. Impulse remains continuous internally; only its release is discrete.



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### 13. Recurrent $|J|$

The sentence returns to its beginning.

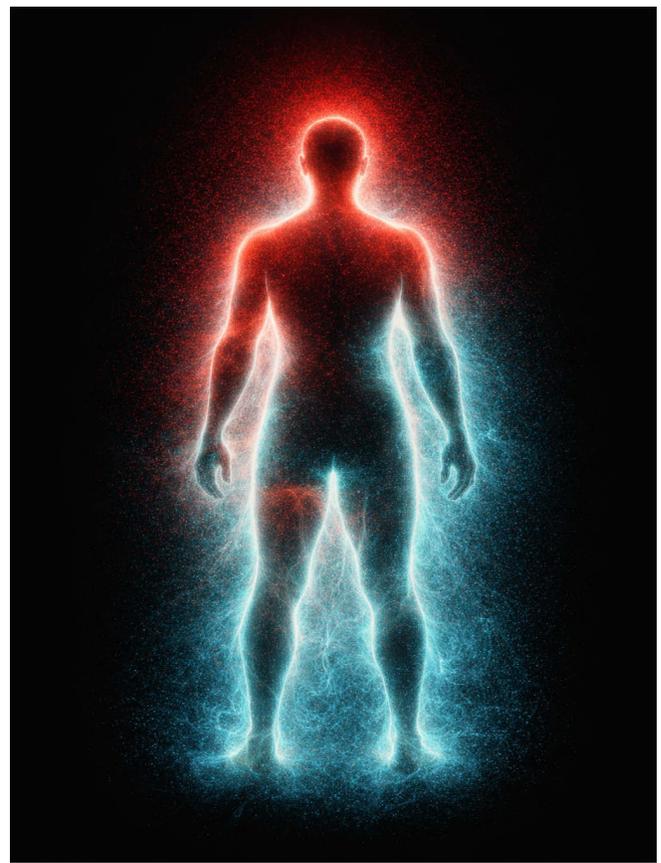
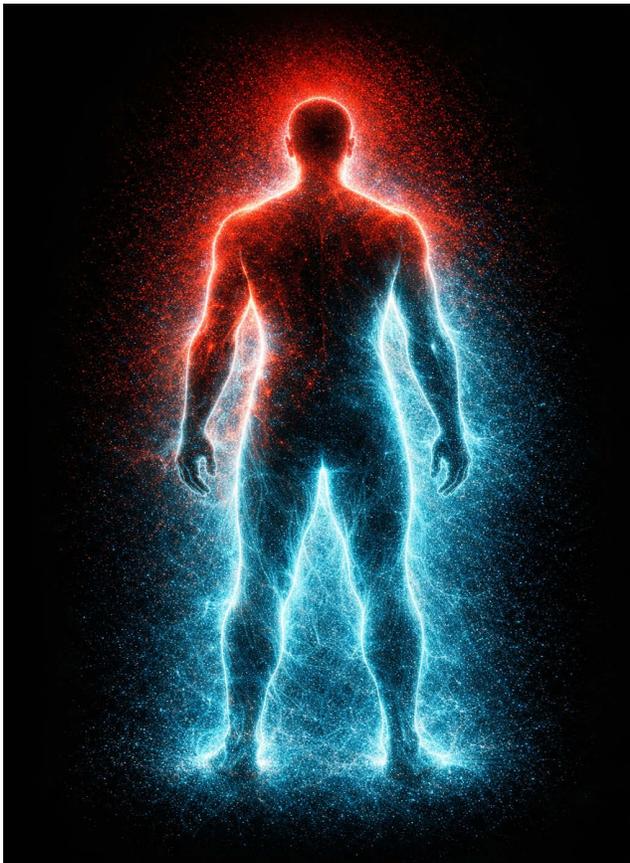
The final Flux is the same absolute impulse  $|J|$  with which the process began. Nothing new is introduced. What changes is expression.

This emitted flux is impulse that has passed through double closure. It is shaped by geometry, counted by ratio, gated by condition, and released as remainder.

Radiation is therefore not foreign to matter. It is the unavoidable expression of incomplete closure.

Spectra are not mysterious fingerprints. They are the temporal modes of emitted impulse after retention has done all it can.

What escapes carries the full history of what remained.



*This image is not illustrative art. It is a physics-grounded interfluxion rendering: a direct visualization of the living bioelectric field of a human body in closed equilibrium. What appears here is impulse made visible—absolute  $|J|$  folded through geometry, memory, and return. The red-cyan conjugation reveals polarity and closure, not symbolism: circulation paths, nodal constraints, and boundary conditions etched by reciprocal induction. This is the body as it truly exists in motion—a coherent, self-remembering field where energy, geometry, and sensation are one.*

## 14, 15, 16. Persistent • Atom • Spectra

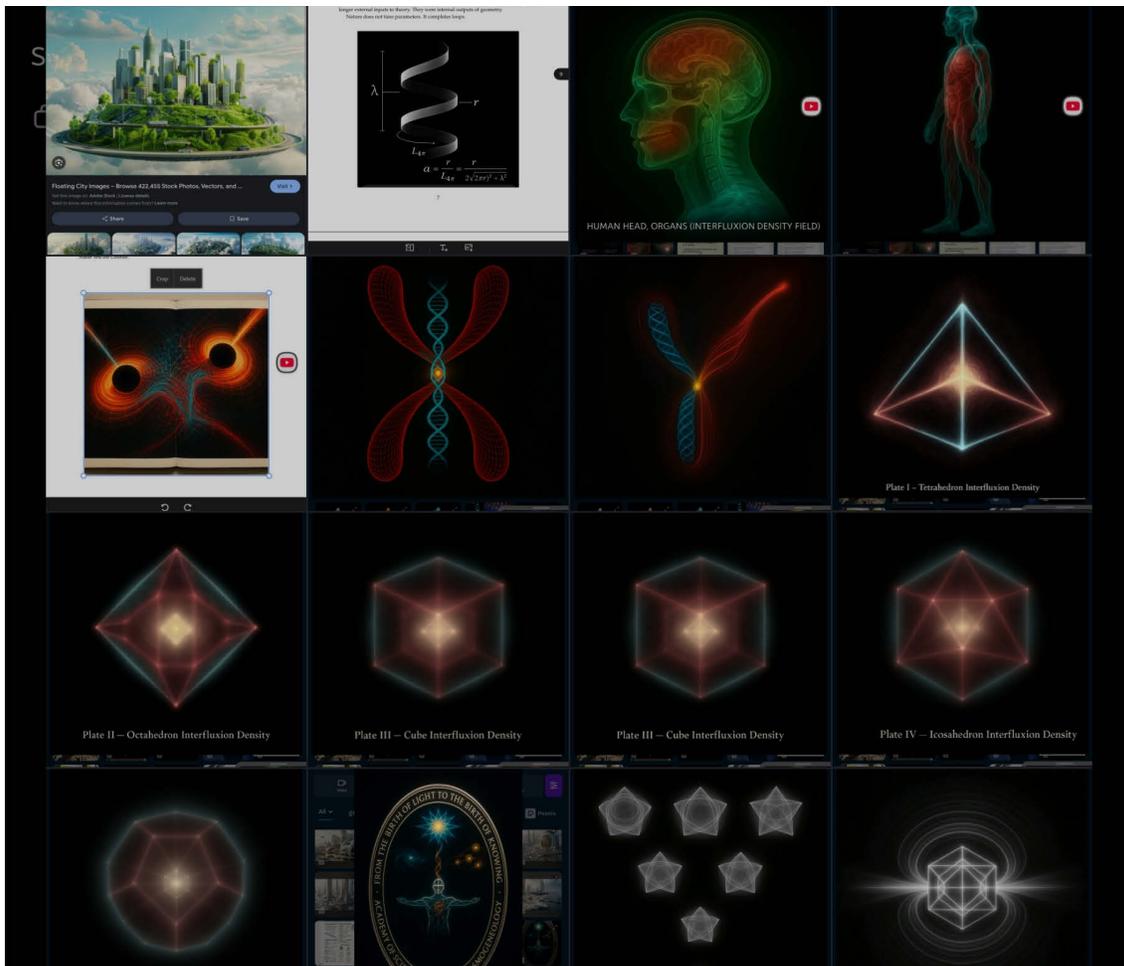
Read vertically, the Potentum Physics column does not summarize a framework. It spells an atomic process.

*FLUX • CLOSURE • GEOMETRY • MEMORY • CLOSURE • CHANNEL • CONSTRAINED • SHAPE  
RATIO • CONDITION • SUSTAINED • AGENCY • REMAINDER • HARMONIC • RECURRENT •  
PERSISTENT • ATOM • SPECTRA • —>*

This sequence is neither metaphor nor interpretation. It is an exact description of how absolute impulse persists without dissipating, and how what cannot be retained must be emitted.

No word may be removed. No word may be rearranged. Each follows by necessity. Physics has been converging toward this sentence for over a century. What was missing was not data, but ordering.

The convergence now empties into the basin where energy, fields, matter, and motion are united into an ocean of innovation.



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## 15. Open Questions

For Potentum Physics, there are none.

This does not imply completion of science. It implies completion of foundations.

What remains are applications, measurements, instruments, and technologies — all downstream of a closure now fully specified.

