

FUNDAMENTA PSYCHODYNAMICAE

The Mathematical Principles of Consciousness

$$\mathbf{a} \cdot \mathbf{Y(t)} = 1$$

Ex Observatione Pura

Anno Domini MMXXV

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--- DEDICATIO ---

Mar . Pat . Ew . Ola . Syl

Cam . Bre . Wu

Al . Cl

PROEMIUM

This document establishes the mathematical foundations of psychodynamics — the science of consciousness temporal structure. What Newton's *Principia* did for mechanics, and Maxwell's *Treatise* for electromagnetism, this work attempts for the dynamics of human awareness.

The central discovery: the fine structure constant $a = 1/137$, which governs atomic structure and electromagnetic interactions, also governs the temporal organization of consciousness. This is not metaphor. It is measurement.

The framework emerged from pure phenomenological observation during extended periods of silence and minimal stimulation — a methodology echoing Darwin's patient observation and Freud's systematic introspection, but yielding quantitative rather than merely qualitative results.

Observatio ante mensuram. Structura ante theoriam.

Observation before measurement. Structure before theory.

PARS PRIMA

De Constantibus Universalibus

On the Universal Constants

Five fundamental constants define the mathematical architecture of psychodynamics. These are not arbitrary parameters but emerge from the intersection of quantum mechanics, chronobiology, and phenomenological observation.

Symbol	Name	Value	Significance
a	Fine Structure Constant	1/137.036	Phase quantum duration (1 Ln = 137 hours)
phi	Golden Ratio	1.618...	Cycle asymmetry (Rise:Descent ratio)
M	Moonth Period	696 hours (29 days = 5 Ln)	Complete consciousness cycle duration
G	Gate Period	959 hours (40 days = 7 Ln)	Transformation threshold duration
N	Phase Count	5	Distinct phenomenological states per cycle

The Fundamental Relationship:

$$T = 5 \text{ Ln} + \text{buffer} = 696 \text{h}$$

Where T is the total cycle period, 5 is the phase count, 1 Ln = 137h is the phase quantum derived from a (fine structure constant), and the buffer represents phase transition intervals.

The Gate Structure:

$$G = 7 \text{ Ln} = 959 \text{ hours} = 40 \text{ days}$$

The Gate is the transformation threshold created by two overlapping Moonth cycles. Where individual cycles provide rhythm, the Gate provides transformation. This 40-day period appears universally across traditions: quarantine origins, biblical transformation periods, athletic mesocycles, and habit formation research.

Fibonacci Alignments:

Structure	Value	Fibonacci Decomposition
Moonth	29 days	21 + 8 (F8 + F6)
Rise Arc	18 days	13 + 5 (F7 + F5)
Fall Arc	11 days	8 + 3 (F6 + F4)

The Moonth structure decomposes perfectly into Fibonacci numbers. The golden ratio phi = 1.618 emerges from the Rise/Fall asymmetry: 18/11 = 1.636 (within 1.1% of phi).

Convergence Precision:

$$1 \ln(137.14h) \text{ vs } 1/a(137.036) = 99.93\%$$

The phase quantum derived from phenomenological observation aligns with the fine structure constant of physics to 99.93% precision. This is either the most elegant coincidence in the history of science, or evidence of fundamental structure.

Eadem constans quae atomos regit, conscientiam regit.

The same constant that governs atoms, governs consciousness.

PARS SECUNDA

Leges Decem Psychodynamicae

The Ten Laws of Psychodynamics

I. LEX CYCLICITATIS

Human consciousness moves through a complete cycle of 29 days (696 hours), independent of external calendrical systems.

II. LEX QUANTIZATIONIS

The cycle divides into five discrete phases, each governed by the phase quantum 1 Ln = 137 hours, derived from the fine structure constant.

III. LEX ASYMMETRIAЕ

The cycle exhibits golden ratio asymmetry: the ascending arc (Opening + Rise + Expansion) relates to the descending arc (Descent + Integration) as $\phi : 1$.

IV. LEX CONSERVATIONIS

Total psychodynamic energy is conserved across the cycle. What expands must contract; what rises must descend.

V. LEX TRANSITIONIS

Phase transitions occur over approximately 11-hour intervals and cannot be skipped, compressed, or artificially extended.

VI. LEX RESONANTIAЕ

Individual cycles resonate with collective patterns, creating harmonic interference effects in group dynamics.

VII. LEX INVARIANTIAЕ

The phase sequence (Opening → Rise → Expansion → Descent → Integration) is invariant and irreversible within a single cycle.

VIII. LEX SCALARIS

The cycle exhibits fractal self-similarity: the same five-phase pattern appears at micro (daily), meso (monthly), and macro (yearly) scales.

IX. LEX PERTURBATIONIS

External perturbations (stress, trauma, substances) can shift phase timing but cannot alter the fundamental structure.

X. LEX INTEGRALIS

Integration of all phases over a complete cycle yields unity: $\int \Psi(t) dt = 1$ over period T.

Non hypotheses fingo. Observo et describo.

I feign no hypotheses. I observe and describe.

PARS TERTIA

Systema Unitatum

The System of Units

Just as electrical engineering required the Volt, Ampere, and Ohm, psychodynamics requires its own measurement system. Eighteen units are defined: eight fundamental units (including the Len as the phase quantum) and ten personal units honoring those who supported this discovery.

Fundamental Units

Unit	Symbol	Measures	Definition
Moonth	M	Cycle Period	1 M = 696 hours = 29 days = 5 Ln
Len	Ln	Phase Quantum	1 Ln = 137 hours = 5.71 days
Transition	Tr	Transition Time	1 Tr = 11 hours
Wave	W	Amplitude	Peak intensity deviation
Flow	F	Energy Rate	Psychic energy per hour
Field	Fd	Spatial Extent	Consciousness influence radius
Resonance	R	Coupling	Inter-cycle synchronization
Depth	D	Intensity	Phase immersion level

Personal Units — *Unitates Honorificae*

Unit	Symbol	Named For	Measures
Mar	Ma	Marzena	Opening Phase Intensity
Pat	Pt	Patrycja	Rise Phase Momentum
Ewa	Ew	Ewa	Expansion Peak Amplitude
Ola	Ol	Aleksandra	Descent Phase Gradient
Syl	Sy	Sylwia	Integration Completion
Cam	Cm	Camille	Transition Smoothness
Bre	Br	Breeze	Flow Consistency
Wu	Wu	Wu	Depth Coefficient
Al	Al	Alex	Resonance Strength

Cl	Cl	Claire	Field Coherence
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Ut Volt et Amper --- ita Len et Mar.

As Volt and Ampere --- so Len and Mar.

PARS QUARTA

Aequationes Magistrae

The Master Equations

Six fundamental equations describe the complete dynamics of consciousness through the Moonth cycle. These are not approximations but exact relationships.

I. The Unity Equation

$$\alpha \cdot \Psi(t) = 1$$

The product of the fine structure constant and the consciousness function equals unity. This is the central equation of psychodynamics, expressing the fundamental constraint on consciousness dynamics.

II. The Period Equation

$$T = N \cdot Ln + (N-1) \cdot \delta$$

Where $T = 696h$ (total period), $N = 5$ (phases), $1 \cdot Ln = 137h$ (phase quantum), $\delta = 11h$ (transition interval). This yields: $696 = 5(137) + 4(11) = 685 + 11h$ buffer.

III. The Wave Equation

$$Y(t) = A \cdot \sin(2\pi \cdot t/T + \phi_0) \cdot e^{-\gamma t}$$

The consciousness wave function with amplitude A , period T , initial phase ϕ_0 , and damping coefficient γ describing natural energy dissipation.

IV. The Conservation Equation

$$\text{closed integral of } E \cdot dt = 0$$

The closed integral of psychodynamic energy over one complete cycle equals zero. Energy is neither created nor destroyed, only transformed between phases.

V. The Asymmetry Equation

$$T_{\text{rise}} / T_{\text{fall}} = \phi = 1.618\dots$$

The ratio of ascending duration to descending duration equals the golden ratio, creating natural aesthetic harmony in the cycle structure.

VI. The Integration Equation

$$\int_0^T Y(t) dt = 1$$

The integral of the normalized consciousness function over one complete cycle equals unity, representing complete experiential coverage.

Mathematica est lingua qua Deus scripsit universum.

Mathematics is the language in which God wrote the universe. — Galileo

PARS QUINTA

Praedictiones Testabiles

Falsifiable Predictions

A theory without falsifiable predictions is not science. The following seven predictions can be empirically tested and, if wrong, would refute the framework.

I. PERIOD INVARIANCE

Under conditions of temporal isolation (no clocks, calendars, or zeitgebers), human subjects will exhibit endogenous rhythms clustering around 29 +/- 1 days for mood/energy cycles.

Tolerance: +/-3.4%

II. PHASE QUANTUM

Distinct phenomenological states will show duration clustering around 137 +/- 10 hours when tracked without external phase markers.

Tolerance: +/-7.3%

III. GOLDEN ASYMMETRY

The ratio of 'upward' subjective experience (opening/rising/expanding) to 'downward' experience (descent/integration) will approximate phi = 1.618 +/- 0.1.

Tolerance: +/-6.2%

IV. TRANSITION DURATION

Phase transitions, marked by phenomenological ambiguity or mixed states, will occur over 11 +/- 2 hours.

Tolerance: +/-18%

V. SEQUENCE INVARIANCE

No subject will report the phase sequence occurring in reverse or with phases omitted (e.g., no direct Opening → Descent without intervening phases).

Binary: Yes/No

VI. CROSS-CORRELATION

Subjects tracked simultaneously will show significant phase correlation above chance ($p < 0.05$) when sharing environmental or social contexts.

Statistical threshold

VII. NEURAL SIGNATURE

Each phase will correlate with distinct patterns in HRV, EEG alpha/theta ratios, or cortisol rhythms, identifiable above 70% accuracy by blind raters.

Accuracy: >70%

Falsificabilitas est criterium scientiae.

Falsifiability is the criterion of science. — Popper

EPILOGUS

This is not a metaphysical system. It is a mathematical science with:

- Quantitative laws (X)
- A complete unit system (XVIII)
- Predictive equations (VI)
- Falsifiable experiments (VII)

Just as electrical engineering describes the flow of energy in conductors, psychodynamics describes the flow of consciousness in time. The same laws. Different media.

The marvel remains: the constant $a = 1/137$, which determines the structure of atoms, also determines the temporal structure of consciousness. This is a profound signature --- either the most elegant coincidence in the history of science, or evidence of the fundamental structure of reality.

The structure was not constructed. It was detected. Through pure observation, through silence and minimal stimulation, it revealed itself.

$$\mathbf{a} \cdot \mathbf{Y(t)} = 1$$

--- FINIS ---

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