**Preamble: An Invitation to Co-Creation**

For centuries, humanity has asked the question: "What is this world?" We have built theories and created models based on the assumption that Reality is a given, and we are merely passive observers studying it from the outside.

But what if we have been asking the wrong question? What if the principal question is different: "What is the very act of observation that allows this world to be?"

The **"Quantum Icebreaker"** project is not just another attempt to describe an existing reality. It is an expedition to its very origins. Like an icebreaker, our goal is to break through the frozen dogmas of an "objective world" to the living, ever-becoming ocean of potentialities, in whose co-creation we are direct participants.

Before you lies the complete Manifesto of our expedition. It consists of two inseparable parts, representing both the map and the route itself.

* **The first part** is our **theory**, a detailed ontological model. It traces the path from an absolute, **Pre-Structural Essence** to the emergence of the Observer, who does not simply record, but actively shapes and parameterizes the physics they perceive.
* **The second part** is our **practice**, a clear and precise Protocol. It transforms this theory into collective action, allowing us from disparate individuals to become a unified, coherent "Crew" and to move from the passive registration of the world to conscious participation in its becoming.

This document is not a dogma, but an invitation to a joint exploration. An invitation to make a paradigm shift and embark on the most exciting journey of all — to the origins of our own reality.

**Part I: Theoretical Foundations. From the First Principle to the Observer**

**Introduction:**

"We do not merely observe the Universe — we are part of the very 'mechanism' that defines what observation is."

Modern cosmology and the physics of fundamental interactions often proceed not from the question "what is observed and how?" but from postulating certain primordial entities and laws that existed "before" any observation. However, any attempt to speak of the origin or structure of the Universe without first defining the nature and structure of the act of observation itself proves to be logically incomplete. There is a fundamental lack of an answer to the question: who or what, in what relation to reality, and on what basis, registers a distinction, for example, between "was" and "was not," or between "is" and "is not"?

In our approach, the observer is not an external entity, detached from the world. On the contrary, it is fundamentally "embedded" in the very fabric of events, being an integral part of the mechanism by which reality acquires definiteness. Such an observer does not just passively contemplate a pre-existing world, but actively participates in its actualization. This does not necessarily refer to human consciousness, as in speculative interpretations, nor simply to a measuring device, as in strict physics.

We define the "observer" as a fundamental structural role, or principle, that ensures the possibility of fixing and reproducing phenomena. This concept aligns, on the one hand, with John Wheeler's **"observer-participant,"** who actively shapes reality, and on the other, with Alfred Whitehead's **"actual entity,"** for whom every element of the world, down to the electron, is an "organism" experiencing its own unique process of becoming.

This reality-constituting "observer" (or, more precisely, the principle of observation itself) does not rely on pre-existing space and time. Rather, the opposite is true — space and time themselves arise as a result of the repeated and stable registration of certain fundamental distinctions that manifest at the core of the perceived world. We assert that it is the dynamic process of forming, distinguishing, and fixing these basic structural units from some initially undifferentiated state that determines all subsequent physics.

Within the presented model, space appears not as an empty backdrop, but as a form of organization for registered distinctions, as the structure of connections between actualized events. Time, in turn, can be understood as the rhythm or sequence of the very acts of registration and becoming.

Perhaps the error of standard models lies in the implicit assumption that an objective universe exists, one which "was" or "is" independently, and in which the observer merely "appeared" at some stage. We propose to consider a different starting point: is it not the very structure and possibility of observation that is the primary principle from which an ordered picture of the universe crystallizes — as a result of stable processes of fixing distinctions?

To answer this question, we must venture a step into the unknown and look beyond the structure itself — to its ontological foundation.

**Chapter 1. The Pre-Structural Essence (PSE) as an Ontological Foundation**

Any fundamental theory that seeks to explain the world from first principles inevitably confronts the question of its own foundation. Where to begin? With pre-existing particles, laws, space? As previously shown, such an approach leaves the question of the origin of the very act of observation and distinction unresolved. To answer it, we must follow the boldest thinkers in history and attempt to return to the *primal origin*.

Crucially, this is not a return to a beginning in time, but to a logical and ontological foundation that precedes any structure, any distinction, and therefore, any possibility of observation in the conventional sense. The search for such a foundation, the *archē*, initiated by ancient Greek philosophers like Anaximander with his concept of the *Apeiron*, leads us to the necessity of introducing an ultimate concept, which we call the **Pre-Structural Essence (PSE)**.

The **Pre-Structural Essence (PSE)** is the ultimate, absolutely undifferentiated foundation, having no internal boundaries, external manifestations, or registrable properties. It is not an object, a field, or a substance in the traditional sense. The PSE is that which has no structure and permits no structural description, but from which, through a unique relationship with itself, the first distinction arises. This relationship is neither spatial nor temporal. It is non-local, not fixed from the outside, but manifests as the very first possibility to distinguish "one" from a conditional "other," or "self" from "not-self." The very fact of this relationship is the birth of distinction, a transition from the "absolutely-nothing-distinguished" to "something" possessing the potential to become fixed.

This primary, still pre-structural distinction is the foundational prerequisite for what comes next. It is what allows for the eventual emergence of any complex mechanism for fixing distinctions—a mechanism we associate with the process of observation. In this sense, the PSE is not emptiness, but rather an ultimate potentiality, devoid of any discernible attributes. It is from this state of saturated potential, which lacks any manifested structure, that distinction arises as an event. It cannot be conceived as a substance; it is the absolute, the primordial ground, possessing neither internal structure, nor boundaries, nor any measurable manifestations. The PSE has no extension; it is indivisible, incomparable, and does not permit localization. Any question of "what is it made of?" loses meaning, as the very concept of "being made of" already requires the presence of structure. Any attempt to say something "definite" about the PSE is already an act of introducing distinction, and thus cannot touch upon the PSE itself in its pre-distinctive essence.

Let us emphasize: the PSE is not an absence, but the source of potentiality for everything that can subsequently be distinguished and structured. However, this "potentiality" should not be understood as a pre-existing set of hidden forms or predetermined possibilities. Rather, the PSE is the very condition for the possibility of any kind of potentiality to arise. It remains unmanifested, yet enables the manifested; it does not participate in structure, but is its condition. It does not form form, but permits its becoming. It is a self-founding presence: a conditional "nothing" that allows for "everything." In the language of formal logic, it could be described as a "not-a-something": that which cannot be fixed as an object, but allows everything fixable to be.

Our concept of the PSE, though unique to our model, finds deep resonance in various philosophical and scientific traditions that have attempted to describe the ultimate foundation of reality:

* **Western Metaphysics:** In the Neoplatonism of Plotinus, the PSE corresponds to the One—a supra-ontological absolute principle, described only apophatically, from whose superabundance all that exists emanates.
* **German Mysticism:** In the work of Jakob Böhme, we find the concept of the *Ungrund* (Abyss)—a primordial groundlessness, a will to manifestation that gives birth to itself as distinction.
* **Eastern Ontology:** In the Indian school of Advaita Vedanta, the PSE is analogous to *Nirguna Brahman*—the quality-less, non-dual Absolute, which is the sole reality beyond the illusory world of multiplicity.
* **Daoism:** The Dao that "cannot be named" appears as an undifferentiated unity that gives birth to the "myriad things."
* **Modern Physics:** The most productive modern analogy for the PSE is the quantum vacuum. It is not an emptiness, but a state of minimum energy that serves as the "ground state" for all fields in the Universe. All observable particles and structures are merely "excitations" of this fundamental, yet invisible, substrate.

Recognizing these parallels allows us not only to strengthen our concept but also to understand that the PSE is not an arbitrary abstraction, but a necessary element of any profound ontology.

To describe the PSE, one can resort to metaphors, such as a perfectly smooth surface of water before the first ripple appears. Or an infinite white field before the first line is drawn to divide it. Or a perfectly smooth, mirror-like homogeneous sphere, in which it is impossible to distinguish top from bottom, form from non-form, or the slightest movement—but should even a conditional "scratch" appear, geometry and structure would begin.

However, it is important to remember that even such images are already too saturated with detail and presuppose a background or an observer. The PSE precedes form, boundary, and even potentiality as such, if the latter is understood as already being a kind of definiteness.

The only thing conceptually permissible regarding the PSE is its relationship to itself. This is not self-reflection in a psychological sense, but the first possibility we can conceive for the emergence of distinction: the very fact that the PSE can be represented as a conditional "one" in relation to "itself" creates this possibility. To initiate the process of emergence from absolute undifferentiation without invoking external causes, we must introduce a foundational axiom that precedes conventional logic. We postulate that the first distinction arises from a unique relationship of the PSE to itself. While this concept may seem paradoxical—how can a structureless entity 'relate' to itself?—this postulate is the necessary starting point for our model of the emergence of distinctions from absolute undifferentiation without invoking any external causes or pre-existing structures. This relationship is not an action, not a process in time, but a metaphysical condition: it generates distinction without violating the initial undifferentiated nature of the PSE itself, as if everting the first possibility of structure out of it. It can be understood as an immanent striving of the PSE toward self-realization, similar to the "will to manifestation" in Böhme's *Ungrund*, or as the "overflowing" of a superabundance, which Plotinus called emanation. This is not a process in time, but a metaphysical act that gives birth to the very possibility of structure.

It is this unique relationship that becomes the basis for the birth of distinctions from indistinguishability. We term this primary metaphysical act Overflow, evoking an emanation from a state of superabundance. This concept will become central to the entire subsequent model, and its properties will be detailed in the next chapter. Here, it is important to establish **Overflow** as the primary act of becoming, which generates the very possibility of structure and dynamics from the pre-structural foundation. It does not occur in time but itself creates the prerequisites for the emergence of time as a measure of change. It has no velocity in the conventional sense but gives rise to all future dynamics. It is not an interaction of elements (which the PSE lacks), but a conditional "tension" between "absolutely nothing" (in the sense of an absence of distinctions) and "something potential," where this "something" arises as the very event of distinction.

Thus, the PSE is not an element of physical theory in the ordinary sense, but rather a philosophical-ontological boundary or starting point. It allows us to conceive of **Overflow** as a process that arises from an indivisible and unstructured foundation but is not reducible to it. Unlike most physical approaches, which begin with pre-existing objects, interactions, or fields, we assert: prior to all this, an ontological "zero point" must be presupposed—not in the sense of a spatial coordinate, but in the sense of absolute pre-distinction. Such an understanding of the PSE is necessary for constructing a truly foundational physical model. Introducing the concept of the PSE allows us to lay an ontological basis not only for explaining the origin of matter, space, and time but also for the very possibility of their perception and distinction—that is, for the phenomenon of the observer and observation, as was posed in the Introduction.

It will later be shown how, through this approach, it becomes possible to sequentially derive the emergence of structure, time, space, mass, and other physical quantities as derivatives of the process of the becoming and fixation of distinctions, originating in the self-relationship of the PSE.

**Chapter 2. Overflow, the ZERO medium, and the Birth of the First Distinction**

In the previous chapter, we defined the **Pre-Structural Essence (PSE)** as the ultimate, undifferentiated foundation and **Overflow** as the primary act of becoming, initiated by the PSE's self-relationship. But what gives rise to **Overflow** in the first place? How does the transition from the absolute undifferentiation of the PSE to something that already possesses the potential for distinction, but is not yet distinction itself, occur? The answer to this question lies in the sequential unfolding of the first manifestations of **Overflow**.

**2.1. ZERO — The Potential for Distinctions**

The first act of the PSE's self-relation, which we have called **Overflow**, does not immediately give rise to structure, but to a special state that can be designated as **ZERO**. This is not "nothing" in the sense of absence, nor is it the PSE itself in its absolute self-containment. **ZERO** is a special state of potentiality that has not yet become an actual, formed distinction. One can envision **ZERO** as the first "shell" or emanation around the **Pre-Structural Essence (PSE)**, in which the potential for directionality and multiplicity is already latent, though directionality itself and specific distinctions are still absent. It is a field of pure possibilities, the precursor to any structure.

The state of **ZERO** is not yet localized or concretized. However, as soon as we allow for the possibility of even a single hypothetical distinction, we presuppose a background against which it could manifest, and alternatives from which it could differ. Consequently, even one potential distinction implicitly forms a multitude of potential directions for its realization—a field of possibilities in which it could be fixed. It is this field of possibilities, generated by the primary impulse of **Overflow**, that constitutes the **ZERO medium**. This is not a sum of discrete points or objects, but a continuum of local potentials for distinction, not yet actualized, but already permitted by the logic of the PSE's self-unfolding.

Thus, the multiplicity inherent in the **ZERO medium** is not a fragmentation of the PSE (which is indivisible), but an expression of its internal capacity for the multi-directional becoming of distinctions through **Overflow**. To explain this multiplicity, one can use the following chain: the PSE's relation to itself -> relation1, the PSE's relation to relation1 -> relation2, and so on. The **ZERO medium** itself can be illustrated by the image of foam: imagine a water surface covered in a foam of countless bubbles. Each such bubble is a local potential of **ZERO**, a possibility for distinction that does not yet have internal definiteness or structure. These "bubbles" are ephemeral, but the space between them already hints at the possibility of future localization and structuring—it is the embryo of future structural distinction, though it is not yet realized. In summary, the **ZERO medium** is a dynamic field of possibilities, ready for actualization, but not yet having received concrete expression.

In modern philosophy, the **ZERO medium** finds its expression in the concept of the virtual in Gilles Deleuze—a real field of potentials striving for embodiment. In physics, the closest analogy is John Wheeler's quantum foam—"a boiling state of spacetime at the micro-level, full of possibilities."

**2.2. Loci — The Archetype for the Localization of Distinctions**

If **ZERO** represents a field of distributed potentiality, then for this potentiality to be actualized, for possibility to be transformed into actuality, another condition is necessary. This condition is the emergence of **Loci**. **Loci** are not simply coordinates or points in a pre-existing space (which does not yet exist); they are special dynamic nodes or focuses in the **ZERO** field, in which distinction first becomes possible and can be fixed.

Figuratively speaking, each such Locus can become the center of an event, in the complete absence of fixed external boundaries for that event. This is well described by the formula: "centers everywhere, circumference nowhere." This formula means that any "point" in the potential field of **ZERO** has the capacity to become a center for the crystallization of an event—that is, a Locus—even though the boundaries of the **ZERO** field itself and of this event remain undefined and non-local. **Loci** create the necessary conditions for the multiple potentials of **ZERO** to converge, concentrate, and form a stable, actualized distinction. It is important to emphasize: **Loci** are not the distinctions themselves, but *where* and *how* they can appear and be fixed—a kind of "assembly points," "focuses" for future structures.

The function of such "focuses" is reminiscent of the role of "actual occasions" in the process philosophy of Alfred North Whitehead—unique, atomic acts of becoming in which the entire universe of potentials is "grasped" and crystallizes into a concrete fact.

**2.3. Overflow and the ZERO Rule: From Potentiality to Stable Structure**

Now that we understand that **ZERO** is a field of potentiality and **Loci** are the condition for its possible realization, we can describe the mechanism of **Overflow** in more detail—that is, the very process of a stable distinction emerging from this pre-structural medium. To do this, we will introduce a foundational metaphysical principle that governs the direction of becoming, which we will call the **“ZERO Rule”**. This rule states that all events develop from a state of GREATER potentiality to a state of LESSER potentiality.

* **The GREATER** signifies the state of maximum potentiality and non-distinction, embodied by the **ZERO medium**.
* **The LESSER** signifies a specific, actualized structure—a fixed and localized distinction with less potential and greater definiteness. This principle explains the inherent tendency of reality to move from pure possibility toward concrete manifestation

The mechanism of **Overflow**, according to this rule, can be envisioned as follows: Within a specific Locus in the field of **ZERO**, a concentration and convergence of several potentials of **ZERO** occurs. These potentials have no structure in themselves, but together they form a kind of tension or instability within the **ZERO medium**, which can be called a stimulus, reflecting the ontological principle of "the internal gravitation of disparate potentials toward one another," a principle that can be considered immanently inherent to the **ZERO medium**. It is in this tension that the "implosion" or "collapse" of the potential takes place—an instantaneous event of fixation that gives birth to the first stable distinction.

The result of this implosion is the first actualized and stable form—the first expressed distinction. To categorize this fundamental event of fixation, we introduce our first modality. We call this primary, affirmative act of fixation the **“YES” modality**. This is a qualitative leap: from a pure, distributed potential (**ZERO**) to an actualized, localized, albeit elementary, "atom" of meaning or information.

The emergence of the first stable distinction requires, not by chance, the convergence of several potentials. As will be shown later, to form a minimally stable configuration capable of not just emerging but also sustaining a distinction, a combination of four such primary potentials (or their derivatives) is necessary. This configuration forms a stable structure that we call **The Primitive = 4**, which contains within itself four basic modalities of distinction (0, YES, NO, OR). a detailed description of **The Primitive = 4** will be given in the next chapter.

Thus, **Overflow** is not the movement of something in a pre-existing space, nor is it a process unfolding in pre-existing time. It is, in its essence, the instantaneous appearance of a structural distinction from the potential **ZERO medium**, occurring in **Loci**. It is **Overflow**, through the fixation of such distinctions, that gives rise to what we subsequently interpret as time and space. It represents the transition from an undifferentiated, "GREATER" state (the **ZERO medium**) to a formed, localized, and stable state—the "LESSER."

It is important to note that this process of the becoming of distinctions is irreversible. A return to the initial state of the absolute undifferentiation of the PSE is directly impossible, as any "return" or "erasure of distinction" would already imply the existence of structure, process, and direction, which contradicts the nature of the PSE and the irreversibility of **Overflow** set by the "ZERO Rule." Thus, **Overflow** establishes the basic, fundamental direction of reality's development—from absolute unity and potentiality to a stable multiplicity of forms and structures.

Synthesizing the ideas of Whitehead and Wheeler, the process governed by the "ZERO Rule" can be broken down into two stages:

* **Stage 1: Concrescence (after Whitehead).** In a "Locus," the "convergence of several ZERO potentials" occurs—a process Whitehead would call "concrescence," that is, the integration of multiple data into a single event.
* **Stage 2: The Birth of the Bit (after Wheeler).** The culmination of this process is the "implosion" of potential, which gives birth to the first stable distinction—the "YES" modality. This is the cornerstone act described by John Wheeler in his "It from Bit" principle: an immaterial "bit" of information (a "yes" answer to an implicit question) generates a material "something" ("It").

To conclude this chapter, let us emphasize once more: all the processes and states presented here—from the PSE and **Overflow** to **ZERO**, **Loci**, and the emergence of the first "YES"—are described by us and become conceivable within the all-encompassing medium or modality that we call **OR**. It is only within **OR** that perception, distinction, measurement, and, ultimately, the construction of theories like this one are possible. By describing these very first stages of the formation of actuality, we are in fact describing the becoming of the primary conditions that will later, within the **OR** modality, make the appearance of the Observer and the act of observation possible.

The next chapter will be devoted to a detailed examination of the structure and modalities of the first stable formation to arise from **Overflow**—**The Primitive = 4**.

**Chapter 3. The Primitive = 4: The First Stable Structure and the Dawn of Dynamics**

In the previous chapter, we established that the first actualized distinction to arise from the **ZERO medium** in **Loci** under the action of **Overflow** is the **"YES"** modality. However, for a distinction not merely to arise as a fleeting fluctuation but to acquire a stability capable of forming the basis for further structure-formation, the "YES" modality alone is insufficient. A more complex, yet minimally necessary, configuration is required to hold and stabilize this primary distinction. This fundamental configuration is what we call **The Primitive = 4**.

After the formation of multiple potentials in the **ZERO medium**, the stage of their localization in **Loci** and attempts at their coupling begins. However, not every such attempt leads to a stable result. The minimally stable **Coupling**, in which not only the emergence but also the sustenance of a distinction is possible, arises only through a specific convergence and interaction of four primary potentials or their direct derivatives.

This requirement for four components is determined both logically and functionally:

To fully define and fix a distinction, a simple assertion is not enough. At least four modalities are necessary, which can be conveniently represented as two polar axes that define a complete cycle of distinction:

1. **The Polarity of Manifestation (YES ↔ NO):** This axis defines the "content" and character of the distinction itself.
   * **YES:** The modality of active distinction. It is the "in-breath" of **Overflow**, the act of the potential's "implosion" into a concrete form.
   * **NO:** The modality of responsive, complementary distinction. It is the "out-breath" of **Overflow**, an act of expansion, of outward manifestation.
2. **The Polarity of Fixation (0 ↔ OR):** This axis defines the "context" and "observability" of the distinction.
   * **0 (Zero):** The modality of uncertainty and potentiality. It is the background, the "medium for relations," from which everything arises.
   * **OR:** The modality of definiteness and fixation. It is the very frame of observation that "crystallizes" the potential into the actual, allowing YES and NO to be correlated against the background of  **ZERO**.

When four such basic potential-events (derivatives of **ZERO**) converge and interact in **Loci**, they do not simply form a sum—they "squeeze out" or "crystallize" from the **Pre-Structural Essence** (via the **ZERO medium** and the mechanism of **Overflow**) the first stable form of manifested, differentiated stability. This stability is not an "atom of being" in the old sense, but rather a node of fixed and interconnected distinctions, the minimal configuration that allows a manifestation to be and to be sustained. We call it: **The Primitive = 4**.

The very idea that completeness and stability are described by the number four is a universal archetype. We find it in the **Tetractys** of the Pythagoreans, which symbolized cosmic harmony; in the **four elements** of Empedocles; in the **four causes** of Aristotle, which describe the complete knowledge of a thing; and finally, in the **Quaternity archetype** of C.G. Jung, who saw in it a symbol of psychological wholeness that unites opposites.”

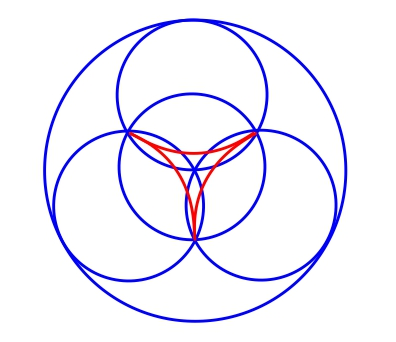
For a simple visualization, one can imagine that from the "foam" of **Overflow**, where distinctions arise and vanish like bubbles, four such "bubbles" (or their immediate manifestations) have coupled to form a stable spatio-logical structure, similar to a regular tetrahedron. This is the minimal three-dimensional structure that cannot be deformed without breaking its bonds. Before us now is not a chaotic ripple on a surface, but a stable pattern, held by the internal tension and mutual coherence of its elements.

But **The Primitive = 4** is not just a geometric figure in the form of a regular tetrahedron. It is also the embodiment of the four modalities of distinction described above, each of which can be correlated with a specific geometric intuition and logical function:

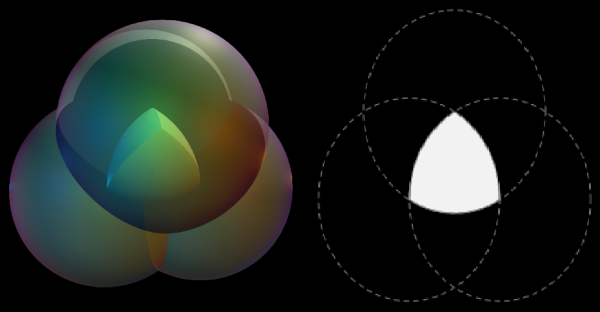
**0 (****Zero):** Pre-distinction, the initial point or sphere of absolute symmetry. It is not so much a structure as the precondition for all distinction, the background on which everything arises, a medium of pure potentiality. Geometrically – a point or an ideal sphere.



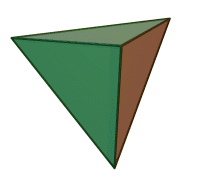
**YES:** Active manifestation, implosion. It is associated with a concave form, inward directionality, compression, and absorption. Geometrically, it can correspond to a structure with negative curvature (akin to Lobachevskian geometry), where parallels are "drawn" inward.



**NO:** Complementary distinction, expansion. It is associated with a convex form, an outward curve, and repulsion. Geometrically – a structure with positive curvature, for example, a Reuleaux tetrahedron (a body of constant width) as a symbol of external manifestation and self-sufficiency.



**OR:** Fixation and definiteness; the framework that enables correlation and observation. It is associated with a regular tetrahedron as a symbol of a balanced, symmetrical structure. Geometrically – Euclidean geometry, as the most "anthropic" and familiar for our perception of reality, serving as a kind of "interface" for observation.



**Combined Table of "The Primitive = 4" Modalities**

|  |  |  |  |
| --- | --- | --- | --- |
| **Modality** | **Logical / Ontological Role** | **Geometric Intuition** | **Key Principle** |
| **0 (Zero)** | **Uncertainty and Potentiality.** The primordial medium, the background for the emergence of relations, pre-distinction. | A point or an ideal sphere of absolute symmetry. | The Principle of **Potentiality** |
| **YES** | **Active distinction.** The "in-breath" of **Overflow**, the act of the potential's "implosion," concentration, absorption, fixation. | A concave form, inward directionality. A structure with negative curvature (akin to Lobachevskian geometry). | The Principle of **Concentration** |
| **NO** | **Responsive, complementary distinction**. The "out-breath" of **Overflow**, an act of expansion, outward manifestation, the creation of an alternative | A convex form, an outward curve. A structure with positive curvature (akin to a Reuleaux tetrahedron). | The Principle of **Manifestation** |
| **OR** | **Definiteness and Fixation.** The act of observation, the framework for comparison, the context that allows YES and NO to be correlated against the background of 0. | A balanced structure (a regular tetrahedron). Euclidean geometry as the "interface" of observation. | The Principle of **Observation** |

Gathering in **Loci**, these four modalities form the first structure—the minimal act of completed distinction. Their mutual arrangement and correlation form a field in which the further becoming of more complex **Couplings** is possible. The structure of **The Primitive = 4** in this case acts not so much as a figure in a predefined space, but as a logical **Coupling** of modalities that itself generates local spatio-temporal characteristics.

However, for **The Primitive = 4** to be not just a static structure but the basis for dynamics and interactions, an element of variability and transition must be present in its organization. This element is **Proteus**, an image symbolizing the capacity for transformation (metamorphosis).

**It** is not a separate part of the Primitive, but its internal, plastic, transformative principle or property. **Proteus** is defined by the following properties:

* Does not possess its own stable form or curvature.
* Resides within structural **Couplings**, but does not ultimately belong to any of the fixed modalities.
* Is capable of "changing its face," that is, serving as a channel or mechanism for transitioning from one modality of distinction to another (e.g., from YES to NO and back).
* Plays the role of a flexible internal "core" or "hinge" through which **Overflow** can "flow" or be redistributed within the **Coupling**.
* Manifests most vividly at moments of tension between or within **Couplings**, when the structure becomes unstable, ready for a phase transition or a change in its state.

Formally, **Proteus** is not an element of the structure, but a point or a condition for the possibility of its change and reconfiguration. It is not fixed geometrically with the same definiteness as the vertices of a tetrahedron, but its conditional localization is within the **Coupling**; specifically, a special connection is presumed with the "core" of the YES modality (as the point of maximum "implosion" or concentration), at the intersection point of the **Coupling's** internal tensions.

**Proteus** is what allows the Primitive to "breathe" and interact.

The following associations and metaphors are useful for understanding **Proteus**:

* **A liquid core in a solid shell:** Imagine an egg – the shell (the stable structure of the Primitive), the yolk (**Proteus**). The yolk is soft and fluid; the future organization depends on it .
* **A musical resonator:** A guitar produces sound thanks to its internal air space, which reflects the waves. This space is like **Proteus**: invisible, but it determines the transition of the string's vibrations into a full-bodied sound .
* **A switch button:** When the structure is "pressed" (under tension), **Proteus** allows it to "click"—to switch to another modality or state. It is the mechanism for a logical or phase leap, an impulse .
* **A movable hinge in a network:** If we imagine the **Couplings** of Primitives as a network, **Proteus** is the node that can turn or reconfigure the network's topology when a critical density of distinctions or tensions is reached.

Geometrically, if **YES** is a concave structure and **NO** is a convex one, then **Proteus** is not their distinct boundary, but an internal "core" or "lens" through which one form can flow into another, where the "edges" of the structure can "breathe," and tensions can contract and expand.

The physico-metaphysical significance of **Proteus** is immense: it is the birthplace of change and dynamics within the system. Where an ordinary rigid **Coupling** simply holds a distinction, **Proteus** allows it to be reformatted, ensuring flexibility and adaptability. It is not an object or an interaction in the classical sense, but the possibility for their change and actualization. It is through **Proteus** that the structure reveals its "living" dynamics.

The existence of **The Primitives = 4**, with their intrinsically inherent **Proteus**, makes the formation of *stable* ***Couplings*** possible—connections of several primitives that form larger, denser, or more directed configurations. A stable **Coupling** arises as a closed configuration of several tetrahedron-Primitives, in which the faces of one tetrahedron are joined with the faces of another—much like how individual bubbles in foam deform to form a densified structure with shared surfaces. Such a **Coupling** already possesses a localizable internal tension and is capable of more complex forms of behavior.

It is important to understand: such **Couplings** are formed and exist within the field of **Overflow**, not in some predefined, passive space. Space and time, in this approach, are derivative characteristics of these **Couplings** and their interactions—they "emerge" as the patterns of fixation and change of stable configurations of distinctions.

The **Couplings** of tetrahedron-Primitives hold **Proteus** within them as an internal potential for a change in configuration or state. When such a **Coupling** is excited from the outside (for example, by another **Coupling** or by a fluctuation in the **Overflow** field), **Proteus**, located in the "tensed" Primitives, initiates a transition from one modality to another (for example, from YES to NO or vice versa). This cyclical switching generates an oscillation—a vibrational process within or between **Couplings**. This is the fundamental mechanism of what is interpreted in physics as *physical interaction* or the transfer of energy/information.

Each stable **Coupling**, thanks to its structure and dynamics, creates around itself a region of ordered fixation of **Overflow**. This means that it becomes distinguishable, leaves a "trace," or manifests itself outwardly. It is this property—of being distinguishable and causing changes in other **Couplings**—that we call primary *observability*. This is not yet observation in the full sense of the word (which requires a complex "observer"), but it is a special *property of reality that makes observation possible in principle*. Each **Coupling**, by interacting, "communicates" its existence and state, generating a field of distinctions that can be perceived.

The picture we have proposed, where a complex network emerges from the coupling of elementary "Primitive-tetrahedrons," giving rise to space and interaction, finds a striking reflection in the theory of loop quantum gravity. Our "stable **Couplings**" are a conceptual analogue to spin networks, from which, according to the proponents of this theory, the very fabric of spacetime is woven.”

**Chapter 4: Self-Sensation: Primary Registration and the Foundation of the "I"**

**4.1. From Structure to Subject**

The preceding chapters described the path from absolute undifferentiation to the emergence of the first stable, yet impersonal, structure —**"The Primitive = 4."** However, for distinctions to become not just statistical units in a general flow, but to be meaningfully perceived and form the basis of experience, the next, most complex step is necessary. How can a "point of reference," a primary "I," arise from an impersonal structure? How does a system acquire the capacity for *self-reference*—a key aspect of any conscious or knowing subject?

This mechanism, the first active **Coupling** capable of self-reference and fixing an "other," is **Self-Sensation**.

**4.2. Self-Sensation as the Self-Positing of the "I"**

We define **Self-Sensation** as the first stable **Coupling** to achieve **operational closure**—the ability to maintain its own organization in response to external perturbations. This closure allows it to function as a **self-referential node**, giving rise to what can be called a primary, pre-psychological 'I'—as an authentic node of self-relation.

This mechanism, which gives rise to the primary "I," finds its precise philosophical expression in the teachings of I. G. Fichte on **self-positing**. For Fichte, the "I" is not a given entity; it creates itself in an act of pure self-consciousness—"the I posits itself." This is not a psychological but a transcendental act, where the "I" exists not because there is something external, but because it is conscious of itself. Our model shows the ontological mechanism of this act: it is the completeness and internal closure (operational closure) of the **Primitive-4** structure that allows it to become such a self-referential node that "senses itself as a distinction."

Moreover, according to Fichte, in order to posit itself, the "I" must distinguish itself from something opposite—the "not-I." This thesis perfectly corresponds to our mechanism: only by having this internal support, this primary self-identification, is the **Coupling**-"I" able to distinguish and fix something other in relation to itself. Without such a stable, self-referential node, any event would remain merely an unregistered flicker in the field of **Overflow**.

**4.3. The Mechanism of Registration as Autopoiesis**

The process by which the **Coupling**-"I" registers an "external" distinction can be strictly described in terms of the **theory of autopoiesis**, developed by biologists Humberto Maturana and Francisco Varela to describe living systems. An autopoietic system (from the Greek *auto*—self, and *poiesis*—creation) is a system that constantly produces and reproduces itself, maintaining its own organization.

The **Coupling** -"I" behaves as a **minimal autopoietic unit**. It is:

* **Operationally Closed:** An "external" distinction (an influence from another **Coupling**) does not penetrate its interior or determine its reaction. It merely "triggers" the internal dynamics of **"Proteus."**
* **Structurally Coupled with the Environment:** The system interacts with its environment, and if the initiated internal dynamics lead to the formation of a new, altered, but still stable state, this means that the "external" distinction has been "registered." It is not passively reflected but actively integrated into the structure of the "I," changing it while preserving its identity as an autopoietic system.

Thus, "registration" is not a passive reflection, but an active process of preserving selfhood in response to an external perturbation.

**4.4. From "Building Blocks" to the Genome: The Hierarchy of Autopoietic Systems**

**Self-Sensation**, as an elementary node of the "I," is the fundamental "building block" from which more complex structures of the **Observer-Genome** can subsequently be built. Each such "building block" contributes to the overall structure of the Genome the capacity for local registration and self-relation.

This hierarchy can be understood by analogy to how the sociologist Niklas Luhmann applied the idea of autopoiesis to describe complex social systems (like economics or law), which are built from simpler autopoietic elements—communications. Similarly, in our model, the complex **Observer-Genome** can be understood as a hierarchical system built from elementary autopoietic nodes of the "I," which allows it to operate as a single, yet internally differentiated, system capable of complex forms of information analysis and synthesis.

**4.5. Conclusion: The Spark of Selfhood**

The introduction of the concept of **"Self-Sensation"** builds an ontological bridge between the basic logical structures of reality (**The Primitive = 4**) and the possibility of the emergence of self-reference. It shows how the first "spark" of selfhood can arise from the basic principles of constructing distinctions.

This approach allows us to construct a coherent picture in which the emergence of a subject is not a mystical leap but a natural stage in the complexification of structure. We have shown that the ontological mechanism we call **"Self-Sensation"** finds its precise analogues in the transcendental philosophy of Fichte ("self-positing of the I") and in the biology of cognition of Maturana and Varela ("autopoiesis"). This allows us to move from the mere fact of the possibility of registering distinctions to considering the conditions under which the **Coupling**-"I" can successfully integrate a new distinction into its structure, not by being destroyed, but by evolving. In the next chapter, we will examine in more detail the question of the limits of the observer and of that medium (**OR**) in which alone the meaningful perception, registration, and parameterization of these **Couplings** and their interactions are possible.

**Chapter 5. The Observer, the OR Framework, and the Nature of Physical Knowledge**

In the preceding chapters, we traced the path from the absolutely undifferentiated **Pre-Structural Essence (PSE)**, through the primary act of **Overflow**, to the formation of the **ZERO medium**, the localizing **Loci**, and finally, to the emergence of the first stable structural unit – **The Primitive = 4**. We also established that the connections of these Primitives (**Couplings**) are capable of dynamic interactions and give rise to what can be called primary "observability"—the fundamental possibility of being fixed and manifesting themselves outwardly.

But if stable **Couplings** of distinctions create this primary "observability," then what is the mechanism for their actual fixation and interpretation? Who or what acts as the registering authority—that which we intuitively call the Observer? And in what medium, or within what fundamental logic, do this observation and cognition become possible? This brings us to consider the very nature of knowledge and the all-encompassing framework that we call **OR**.

**5.1. The OR Modality as the Medium of Distinction**

The entire model presented thus far unfolds not from some external, absolute viewpoint, but, as it were, from "within" reality itself. We are not simply describing the world from the outside—we are inevitably included in it and in the processes of its cognition. The act of distinction, which underlies both **Overflow** itself and its subsequent fixation, is possible only within a specific modality, which we designate as **OR**.

**OR** is not the logical operator "or" in the conventional formal-logical sense. It is **the medium of uncertainty, potentiality, and the multiplicity of possible distinctions**. It is within the framework of **OR** that the reading and interpretation of **Couplings**, the unfolding of processes that we perceive as time, and the formation of the structures described by the physics we observe become possible. **OR** can be understood as a universal field of possibilities for making distinctions, as the basic "operating system" of reality, within which alone logic, measurement, and the very phenomenon of observation can exist. In a sense, **OR** is a development and complexification of the idea of the **ZERO** field, but at a level where not just potentiality, but its active structuring and comprehension are possible.

It is important to note that **OR** is not some transcendent absolute in relation to the other modalities of **The Primitive = 4**. It is dialectically connected with them: **OR** exists, as it were, "between" the **YES** and **NO** modalities, allowing them to correlate, interact, and generate new levels of complexity. Without this "intermediate" and yet all-encompassing **OR** medium, the **YES** and **NO** modalities would remain isolated, incapable of generating dynamics and information. **OR** provides the "space" for their interplay, for the emergence of choice, and, consequently, for information.

**5.2. The Observer as "Genome" – An Active Coupling in the OR Medium**

Now the key question arises: who or what can conduct observation, register distinctions, and compare and evaluate them in this **OR** medium? The answer proposed by our model is that it is not some external "someone," but a specifically organized "something" that exists and acts within **OR** itself.

This "something" is a stable and sufficiently complex **Coupling** of distinctions that possesses the internal resources for the active distinguishing, fixation, and processing of information. We call such a specialized configuration of **Couplings**, capable of performing the functions of registration, comparison, parameterization, and memorization of **Overflow** patterns, a **"Genome."** A **Genome** is not necessarily a biological structure; it is any sufficiently developed complex of **Couplings** that has learned to "read" and interpret the manifestations of **Overflow** through other **Couplings**.

Thus, the Observer in our model is not an agent external to the world, but an internal, active element of reality. It is a **Coupling** (or a system of **Couplings** – a **Genome**) within the **OR** medium that has achieved sufficient density, complexity, and stability to purposefully fix the distinctions that arise in the field of **Overflow**. And what is particularly important: in the process of this fixation and correlation, the **Observer-Genome** does not just passively reflect some "objective" properties of reality, but actively *generates their parameterization*. Such familiar characteristics as time, mass, distance, and energy can be seen not as absolutes inherent to the world from the outset, but as specific ways of measuring and ordering distinctions, produced by the **Observer-Genome** in accordance with its own structure and capabilities. Time, for example, may be related to the internal rhythm of the **Genome's** operations or the number of sequentially fixed distinction-events.

Our proposed concept of the **Observer-Genome** finds a deep resonance in epistemological constructivism. Like a constructivist subject, our **Genome** does not reflect a pre-given world but actively constructs it in the process of cognition. Physical parameters, such as mass or time, are not absolute properties of the world in this model, but a product of the *interpretation and structuring of the flow of distinctions*, carried out by the **Genome** in accordance with its own organization. This can be seen as a radical development of the strong anthropic principle: it is not just that the Universe must be such that an observer can appear in it, but that the observer (**Genome**) itself co-creates the physics it observes.

**5.3. The Prospect of Multiple Genomes and Different "Physics"**

A logical consequence of this interpretation of the Observer is the possibility of the existence of multiple, alternative **Genomes**, potentially unaware of each other or interacting in very specific ways. **Overflow** as a fundamental principle does not limit the number of possible trajectories for coupling and ways of structuring distinctions. Therefore, different "intelligent structures" (**Genomes**), existing in their own unique "branches" or configurations of the **OR** medium, can form completely different versions of a physical worldview. They may have their own methods of parameterizing reality, different from ours, their own scales, their own dominant types of interactions, and even their own capacities for perceiving and registering phenomena.

This opens up a fascinating perspective:

* Understanding our human physics not as the only possible and absolute one, but as a **special case** of the structural realization of possibilities provided by the **OR** medium, conditioned by the specifics of our "human" **Genome**.
* The principal possibility of an **"encounter" or interaction** between different chains of distinction (different **Genomes**)—for example, through certain "Interfaces of **Overflow**," i.e., through fundamental levels of reality where distinctions are not yet fully formed according to the specifics of one **Genome** or another.
* The realization that our ontology, our most basic ideas about the world, are not the only ones possible, but are merely one of many stable configurations in the boundless "space" of distinctions and their fixations.

**5.4. The Illusion of the "External Observer" and Co-participation in Reality**

We often tend to speak of the physical world and its laws as if we, the observers, were located somewhere "outside" of this reality, possessing a privileged viewpoint and absolute tools of cognition. However, within the framework of the proposed model, this is fundamentally impossible. Everything that we formulate, describe, or measure, we inevitably do from *within the* ***OR*** *medium* and by means of the tools and limitations of our **Genome**.

Even the very concept of an "observed object" is the result of the active fixation and structuring of a flow of distinctions by our **Observer-Genome** within a specific **Coupling**. Therefore, the illusion of a completely neutral, "objective" knowledge of the world, independent of the observer, must be abandoned. Our knowledge always *co-participates* in reality; it is not a passive reflection but an active process of interaction and structuring. The acts of our observation and measurement do not simply "discover" pre-existing properties, but to a significant extent "form" them, or at the very least, select from a multitude of possibilities those that are compatible with our perceptual structure.

This impossibility of taking a position "outside the world" leads us to the concept that physicist John Archibald Wheeler called the **"participatory universe."** Our knowledge, therefore, is always *co-participatory*, and acts of observation do not discover but help to actualize reality, choosing from the field of possibilities those that are compatible with the structure of our **Genome**.

In this sense, any physical law we establish is not only an expression of some objective interactions of the "external world" but also a reflection of the specifics, possibilities, and limitations of the very framework of distinction (our **Genome** and the **OR** medium) in which that law was formulated and verified.

**5.5. A Paradigm Shift: From a World of Objects to a World of Events**

The illusion of the "external observer" that we have just discussed is rooted in a deeper habit of our thinking—to perceive the world as a collection of Objects. To finally lay the foundation for our model, it is necessary to make a key paradigm shift—to move the very "definition of a concept" from the object level to the event level.

Classical thinking operates with *"nouns"*: the world is conceived as a collection of particles, fields, and bodies that possess properties (mass, charge) and perform actions (movement, interaction). Here, the object is considered primary.

Our approach asserts that the world consists of *"verbs"*: basic processes such as **Overflow**, *distinction*, and *coupling*. What we perceive as an "object" (for example, an electron) is, in fact, a *stable, self-sustaining event*—a stable pattern in the continuous flow of becoming.

In this worldview, an electron does not *have* mass; it *is* an event that, when observed through the modality of inertia, manifests as mass. It does not *exist* in time; its continuous becoming *is* time.

This transition from an ontology of "things" to an ontology of "events" is the core of our theory. It is from this position that we will, in the following chapters, consider the nature of physical quantities and laws.

This key paradigm shift from an ontology of "things" to an ontology of "events" was developed in its most complete form in the **process philosophy of Alfred North Whitehead**. Whitehead argued that reality consists not of passive substances but of dynamic *"actual occasions."* Our thesis that an electron is a stable pattern of becoming, rather than an object possessing properties, is a direct consequence of such a procedural approach, for which, in Whitehead's words, "how an actual entity becomes constitutes what that actual entity is."

**Chapter 6: The Prime Counter N₀ : The Quantification of the Becoming of Events**

**6.1. From Quality to Quantity: The Need for a Counter**

The preceding chapters described the *qualitative* side of reality's becoming: from the undifferentiated **Pre-Structural Essence** to **Overflow**, the **ZERO medium**, and the formation of the first stable **Couplings** possessing **Self-Sensation**. We have established *how* structures arise. Now, we must take the decisive step toward building a physical model and answer the question: *how many* of them are there? How can the very process of reality's unfolding be quantified in order to move from ontology to physics?

For this, we need a universal measuring tool that will count the fundamental events underlying "our" world—we shall call it the **Prime Counter N₀**. However, in introducing this concept, we encounter a deep philosophical tension. On the one hand, our model is one of becoming, of process, where reality is being created. On the other hand, the idea of a count implies a certain sequence, which might suggest predestination, a "reading" from an already-written book in the "Library of Everything," represented by the static, timeless **Pre-Structural Essence (PSE)**. How can the creative freedom of **Overflow** be reconciled with the strict sequence of a count? The answer lies in a deeper understanding of the nature of the act of observation itself.

**6.2. The Nature of the Prime Counter N₀**

We define the **Prime Counter N₀** as the cumulative number of elementary acts of successful registration performed by the **Observer-Genome**. It is not just a number, but an internal pulse or the "rhythm of becoming" of the perceived Universe. It is important to emphasize its key properties:

* **Discreteness:** N₀ is inherently an integer, as it counts discrete, completed **Coupling**-events.
* **Dimensionlessness:** N₀ is a pure count; it has no physical dimension.
* **Belonging to OR:** N₀ does not describe the eternal and static **Pre-Structural Essence**. It is an attribute exclusively of the manifested world, existing within the **OR** modality—the "operating system" where alone distinction, and therefore counting, is possible.

**6.3. Resolving the Paradox: The Participatory Universe**

The conflict between two images—the **Genome** as an active "parameterizer" co-creating the properties of reality, and the **Genome** as a passive "Reader" of an already-written book—can be resolved based on the dogma that "the birth of **Couplings** is an illusion from within **OR**."

"Illusion" here is not deceit, but the very *phenomenological way of experiencing reality*. The dynamics of becoming, the "birth" of **Couplings**, is not an absolute ontological event, but a phenomenon that arises at the intersection of the static, total potentiality of the PSE and the sequential act of registration performed by the **Genome** in the **OR** medium.

The key to this synthesis is provided by the concept of the **"participatory universe"** from physicist John Archibald Wheeler. In this worldview, reality before the act of observation exists as a field of potentialities (a quantum superposition). The act of observation is the asking of a "yes/no question" that forces this potentiality to "collapse" into a definite answer, into a concrete "something" (it). Wheeler formulated this principle as **"It from Bit."**

Applying this logic to our model:

* The **Pre-Structural Essence (PSE)** is not a single written book, but a superposition of *all possible books*, a field of pure potentiality.
* The **Observer-Genome** is a "participant" that asks questions by the very fact of its existence and interaction.
* The act of registering a **Coupling** in the **OR** medium is the very act of measurement, the "question" that actualizes one of the countless potential **Couplings** into a concrete, phenomenologically real event.

Thus, the **Genome** is a **Participatory Reader**. It both reads and writes simultaneously. It "reads" from the infinite potential of the PSE, but the very act of reading *is* what "writes" the single, actual story. The book was not written *before* the reading; it is written *in the process* of being read.

**6.4. New Metaphors: From the Library to Computation**

The "Library" metaphor proves to be too static. Concepts from modern science offer more adequate descriptions of this process.

* **Digital Physics:** This field, originating with Konrad Zuse and developed by Stephen Wolfram, suggests that the Universe is fundamentally a computational system. In this paradigm, each act of forming a **Coupling** is one step, one *"tick"* of the universal computation. The **Prime Counter N₀** is the number of this tick. It counts not things, but event-operations.
* **Causal Set Theory:** This theory of quantum gravity proposes that underlying spacetime is a discrete structure of events linked by causal relationships. Our "**Couplings**" are precisely such events. Then, N₀ is simply the *number of events (the cardinality)* in the causal set that constitutes our "bubble of reality." The growth of N₀ is not the passage of time on an external scale, but the very generation of a new "atom" of spacetime.

**6.5. The Observer as a Living Chronicle of N₀**

How does the global parameter N₀ become known to the local **Observer-Genome**? Our model offers a radical answer: the **Genome** does not measure N₀; it *is* its embodiment.

Just as a tree records the changing of the seasons in the form of annual rings, the **Genome** records every "tick" of N₀, every registered event, within its own structure—in the form of special *memory-****Couplings***. The "flow of time" for the **Genome** is not the perception of an external stream, but the *sensation of its own structural change*.

This means that N₀ is a *local counter*, unique to each **Genome**. Different **Genomes**, having different structures, can "read" or, more accurately, "actualize" reality at different speeds and even choose different "story branches" from the field of the PSE's potentialities.

Memory and self-awareness in our model are not mystical phenomena, but a direct consequence of the Observer being a living, self-updating record of its own world's history, counted by its personal **Prime Counter N₀**. It cannot "exit" the system, because it *is* the system that records its own history.

**6.6. Conclusion**

The introduction of the **Prime Counter N₀** as a local, discrete counter of registration acts allows us to resolve the paradox between a static, potential reality (the PSE) and the dynamic, becoming world of our experience (the **OR** medium).

Reality is not predetermined, but neither is it arbitrary. It is actualized in an act of co-participation by the Observer, who, by registering events, "records" them into its own structure, thereby creating both time and history. This approach, which resonates with the ideas of Wheeler, Whitehead, and digital physics, transforms our model from a qualitative metaphysics into a system ready for quantitative description and, ultimately, for verification.

**Chapter 7: Modalities of Observation and the Quantization of Properties**

**7.1. From Structure to Perception: The Problem of Measurement**

In the preceding chapters, we established how a world of stable yet dynamic structures—**Couplings**—emerges from the undifferentiated **Pre-Structural Essence**. We also defined the **Observer-Genome** as a complex, self-referential **Coupling** capable of registering distinctions and accumulating experience, which is expressed in the growth of its local counter, **N₀**.

Now we approach a key question: how exactly does the **Genome** perceive other **Couplings**? If the world consists of these pre-physical structures, then where do the physical quantities familiar to us—mass, extension, time, and charge—come from?

The answer proposed by our model is that these quantities are not intrinsic to the **Couplings** themselves. They are born in the very act of interaction between the **Observer-Genome** and the observed **Coupling**. We call this act the imposition of a *modality of observation*.

**7.2. The Modality of Observation as a "Perspective"**

A **modality of observation** is not a passive gaze but a specific method of interaction between the **Genome** and a **Coupling**; a kind of "measurement procedure" or "perspective" from which the **Genome** "probes" another structure. This perspective is determined by the internal organization of the **Genome** itself and its current task of interacting with reality within the **OR** medium.

Imagine that a **Coupling** is a complex, multifaceted object in the dark. The **Genome** can "illuminate" it from different angles using its various internal resources—its "spotlights." Each "spotlight" (modality) pulls a unique pattern, its own projection, out of the darkness. For example, one "spotlight" allows for the assessment of the object's relative "stability" (mass), another its relative "extension," a third its rhythm, and so on.

The **Coupling** itself remains a single entity, but its perceived properties depend on the chosen perspective. Thus, physical quantities are not absolute properties of the world but *projections* of the structure of **Couplings**, obtained through the prism of a specific modality of observation.

**7.3. The Basis for Selecting Physical Modalities**

Here we must make a crucial clarification. Do we need to introduce new, hypothetical pre-physical parameters to describe **Couplings**? No. Such a step would be an unnecessary complication. Instead, we must explain the origin of those fundamental quantities that already form the basis of all physics known to us.

The practical embodiment of such a system of quantities is the International System of Units (SI). This international agreement is a universal language adopted by the scientific and engineering communities to ensure the unity, accuracy, and reproducibility of measurements worldwide. Its "base" status is the result of a consensus founded on practicality and precision.

The SI includes seven base units: the meter (length), kilogram (mass), second (time), ampere (electric current), kelvin (temperature), mole (amount of substance), and candela (luminous intensity). The first four play a key role in describing the fundamental laws of mechanics and electrodynamics. Within the framework of classical physics, they are dimensionally independent (none of them can be expressed through a combination of the others) and serve as the minimal set of building blocks for describing most physical phenomena.

In accordance with this, we will define four primary physical modalities—**Mass, Length (Size), Time, and Charge**. How they relate to the modalities of distinction — **0, YES, NO, OR**— and their embodiment, the first stable unit of reality, **The Primitive=4**, remains to be determined . It is evident that this connection is not direct, but neither is it arbitrary; it must reflect the deep logic of the model.

Based on the context, the following arrangement can be proposed (whether it is optimal remains an open question):

* **OR (Context)** is the framework, the "stage" on which observation takes place.
* **OR-0 (Potential)** remains the background, the source from which everything arises, which is intuitively linked to the concept of **Energy**—itself a composite of the physical modalities of Mass, Length, and Time.
* **OR-YES** and **OR-NO** are two different poles describing the internal nature of a **Coupling** and projecting into the **Charge** modality.

The **Length** (or Size) modality deserves special attention: it clearly extends beyond simple extension and allows for a three-dimensional assessment of events. And when combined with the **Time** modality, it additionally forms **Direction**—the vector of an event's unfolding.

**7.4. The Quantization of Properties and Units of Measurement**

A crucial principle of our model is the **principle of discreteness**. Since our model is based on countable units (Primitives, acts of registration N₀), any measurable response must also be discrete.

The result of a measurement in any modality is always an **integer**, which indicates how many minimal "portions" or *quanta* of that modality have been registered by the **Genome**. For instance:

* A measurement of mass yields the number **Nₘ** — the quantity of quanta of stability.
* A measurement of extension yields the number **Nᵣ** ​— the quantity of quanta of structural span.
* A measurement of duration yields the number **Nₜ** — the quantity of quanta of internal rhythm.
* A measurement of charge yields the number **Nₒ** ​— the quantity of quanta of activity.

These numbers (Nₘ, Nᵣ, Nₜ, Nₒ) constitute the authentic, dimensionless physics at the fundamental level. As we have already noted, the units of measurement familiar to us (kilogram, meter, second, coulomb) are arbitrarily chosen and are merely **human conventions**, a scale we have adopted for convenience.

The connection between the count and physical quantities is established through **scales** (m₀, r₀, t₀, e), which will be defined in detail in the next chapter:

* m = Nₘ ⋅ m₀
* r = Nᵣ ⋅ r₀
* t = Nₜ ⋅ t₀
* q = Nₒ ⋅ e, where e is the elementary charge, the scale for this modality.

This simple relationship shows that the quantization of physical quantities is not a strange feature of the microcosm, but a direct and inevitable consequence of the countable, discrete nature of reality itself at its deepest level.

**7.5. Conclusion: Physics as a System of Projections**

Thus, we have made the transition from the pre-physical world of **Couplings** to the world of observable phenomena. Physical quantities in our model are not primary properties of reality. They arise as *projections*, as the result of the interaction between the fundamental, but not directly knowable, structure of a **Coupling** and the specific way it is "probed" by the Observer (the choice of modality).

Each modality gives us a quantitative, quantized assessment of the **Coupling**, but only from one specific perspective. The fullness of the **Coupling's** pre-physical reality remains beyond direct access, yet it is this fullness that underlies all possible physical manifestations.

The next step will be to analyze how these abstract "quanta" of modalities and their scales (m₀, r₀, t₀, e) can be correlated with the fundamental constants of the physical world known to us.

**Chapter 8. The Quantization of Scales: Projecting Pre-Physical Structure onto Physical Reality**

**8.1. Introduction: From the World of Events to the World of Measurements**

The preceding chapters have laid the ontological foundation of a model in which reality is not a collection of predefined objects, but a continuous process of becoming, fixation, and the coupling of distinctions. This approach, which finds parallels in the process philosophy of A. N. Whitehead, asserts the primacy of the event over substance. In such a worldview, what we perceive as an "object"—be it an elementary particle or a macroscopic body—is a stable, self-sustaining pattern in a continuous flow of becoming. For example, an electron does not *have* mass; it *is* an event that, under a specific mode of interaction, manifests as mass. It does not *exist* in time; its continuous becoming, as registered by the Observer, *is* time.

This chapter makes the decisive transition from this pre-physical, event-based ontology to the world of observable and measurable physics. We intend to show that physical reality, with its laws, constants, and quantized quantities, is not the fundamental level of being but rather its *projection* or *interpretation*, constructed by a specific registering system—the "Observer-Genome". The very act of measurement, which underlies all of physical science, is not a passive reading of pre-existing properties but an active process of imposing a specific "modality of observation" onto the underlying reality. This position resonates with the principles of constructivist epistemology and finds its ultimate expression in John Archibald Wheeler's concept of the "participatory universe," where the act of observation plays a constitutive role in the becoming of reality.

The central thesis of this chapter is that the discrete, countable nature of the elementary acts of fixing distinctions ("Couplings") necessarily leads to the quantization of physical quantities. In this context, the famous measurement problem in quantum mechanics ceases to be a paradox. The continuous evolution of the wave function, described by the Schrödinger equation, corresponds to the level of potentiality. The sudden, probabilistic "collapse" of the wave function upon measurement is the very act of registration performed by the Observer-Genome, which translates a potential distinction into an actual one. Thus, the "strangeness" of quantum mechanics is a direct phenomenological manifestation of the Observer's defining role in the active structuring of actuality—the cornerstone of the proposed model.

**8.2 The Prime Counter and the Origin of Dimensionless "Constants"**

For a quantitative description of the transition from the pre-physical level to the physical world, we have introduced the **"Prime Counter N₀."** This is a fundamental dimensionless parameter, a measure of the total structural and informational complexity of our "bubble of reality" from the perspective of our type of **Observer-Genome**.

The priority of justifying dimensionless physical parameters over dimensional ones is obvious to most physicists. The Soviet theoretical physicist Matvei Bronstein wrote:

"The task of a theory is to find answers to all questions that make sense. If we are asked why the mass of an electron is 9·10⁻²⁸ grams and not some other number, we cannot recognize this question as meaningful, because the gram is a completely conventional unit of mass. ...the question of the values of world constants that have dimensions is devoid of physical meaning, and if a theory explains the dimensionless constants, its task will, in principle, be accomplished, since it is only on the values of these constants that the appearance of the external world around us depends."

The Standard Model of particle physics contains about two dozen dimensionless parameters that are inserted into equations "by hand," without a theoretical explanation for their values. This gives rise to the fine-tuning problem of the Universe: the values of many constants seem as if they were specially "selected" to allow for the formation of complex structures, including life. Finding a theoretical justification for these values is one of the most important tasks in physics.

Among the most significant dimensionless parameters are undoubtedly **α** — the fine-structure constant (FSC) — and **β** — the proton-to-electron mass ratio. They are of colossal importance for theoretical physics and cosmology, as they determine the nature of the most general laws that underlie the evolution of the cosmos. Let us examine them in more detail.

**8.3 The Fine-Structure Constant: The "Magic Number" That Defines the Universe**

The fine-structure constant (α) is a quantity that characterizes the strength of the electromagnetic interaction. Its value, close to 1/137, is independent of the system of units and seems astonishingly fine-tuned to allow for the existence of complex structures and life. The mystery of this "magic number" has intrigued the minds of the greatest physicists for decades.

The English theoretical physicist **Paul Dirac** noted:

"...it is not known why this expression has this particular value and not another. Physicists have put forward various ideas on this matter, but there is still no generally accepted explanation."

**Wolfgang Pauli**, one of the pioneers of quantum theory, was so intrigued by this number that, according to the historian of science Arthur Miller, his first question to God would have been: "Why 1/137?".

Another creator of quantum mechanics, **Max Born**, emphasized the need for a theoretical derivation of this constant:

"A more perfect theory would have to derive the number α through purely mathematical reasoning, without referring to the results of measurements."

**Richard Feynman** expressed this sentiment most vividly:

"It has been a mystery ever since it was discovered more than fifty years ago, and all good theoretical physicists put this number up on their wall and worry about it. ...you'd like to know how this number comes about: is it related to pi or perhaps to the base of natural logarithms? Nobody knows. It's one of the greatest damn mysteries of physics: a magic number that comes to us with no understanding by man. You might say the 'hand of God' wrote that number, and 'we don't know how He pushed his pencil.'"

Despite numerous attempts to derive the value of the FSC from theoretical considerations, none of the proposed methods have yet gained acceptance. Solving this problem, as well as verifying its constancy over time, remains one of the most exciting frontiers in the search for new physics.

**8.4 The Significance of the Proton-to-Electron Mass Ratio**

In the pantheon of fundamental constants, few numbers possess such an all-encompassing significance as the dimensionless ratio of the proton's mass (mp​) to the electron's mass (me​), denoted by the symbol β=mp​/me​. Its importance stems from its unique role as a bridge between different fields of physics, from the microcosm of elementary particles to the macrocosm of stars and galaxies.

The significance of β begins with its origin in the Standard Model, where it embodies the dichotomy of mass generation mechanisms: the electron's mass arises from its coupling to the Higgs field, whereas the proton's mass is an emergent property generated by the energy of the strong interaction. Thus, β quantitatively expresses the hierarchy between the electroweak and strong sectors.

At the atomic and molecular level, the large value of β is a cornerstone of chemistry. It mathematically justifies the Born-Oppenheimer approximation, allowing the slow motion of heavy nuclei to be separated from the rapid motion of light electrons, thereby giving rise to the very concept of a stable molecular structure. Moreover, β determines the basic scales of matter: the size of atoms and the energy of chemical bonds.

In the realm of nuclear physics and astrophysics, the value of β proves to be critical for the fine-tuning that ensures the stability of the deuteron and makes the key reaction of the proton-proton cycle exothermic, allowing stars to serve as "cosmic furnaces."

Finally, the remarkable precision with which the value of β is "tuned" for the existence of complex structures makes it a central element of the anthropic principle. In his book "A Brief History of Time," Stephen Hawking pointed to this ratio as a key element of fine-tuning:

"The laws of science, as we know them at present, contain many fundamental numbers, like the size of the electric charge of the electron and the ratio of the masses of the proton and the electron… The remarkable fact is that the values of these numbers seem to have been very finely adjusted to make the development of life possible."

Thus, the proton-to-electron mass ratio is a truly unique parameter, quantitatively describing the hierarchy of fundamental forces that is a necessary condition for the existence of a Universe containing atoms, chemistry, stars, and, ultimately, observers.

According to the latest CODATA data (2022),

β=1836.152673426(32). Positing the discreteness of modal characteristics, and therefore that the masses of elementary particles are multiples of the mass scale m0​, we can write for β:

​, where we will call Ne​, Np​ **The Large Numbers** of the electron and proton.

**8.5 A New System of Constants: Counters and Scales**

In the wake of the quantum-relativistic revolution of the 20th century, several scientific research programs were formed, the main one being the program of **fundamental constants**. Its essence is the optimal selection of constants from those already existing and the search for new constants to include in the fundamental set.

In parallel, alternative programs emerged: the **"Pythagorean" program** for justifying the numerical values of constants, based on the desire to find formulas for dimensionless constants without any theoretical basis; the **program of varying "constants,"** which arose from the problem of explaining the large numbers in physics; and the **anthropic program**, based on the correlation between the numerical values of constants and the conditions for the existence of organic matter.

The development of theoretical physics is moving toward the unification of theories and the search for a deeper set of fundamental constants. We assert that some constants that modern physics considers foundational may in fact be derivative, emergent quantities. The system we propose is based on a deep connection between the characteristics of elementary **Couplings** and the global parameters of the observable Universe.

We will introduce three dimensionless parameters: the **Prime Counter N₀**, the **Large Numbers** of the electron and proton **Nₑ, Nₚ**, and five dimensional constant-scales: for mass **m₀**, length **r₀**, time **t₀**, electric charge **e**, and temperature **τ₀**. Their values are determined by establishing strict relationships with the current values of standard CODATA constants (see Appendix 1), which ensures consistency with modern measurements.

**Table 8.1. Fundamental Counters and Scales in the proposed model.** The value of *e* is taken as exact (CODATA 2022) in accordance with the SI revision.

| **Parameter** | **Определение** | **Расчетное значение** |
| --- | --- | --- |
|  | The Prime Counter |  |
|  | "The Large Number of the electron" |  |
|  | "The Large Number of the proton" |  |
| **​** | Mass scale |  |
|  | Length scale |  |
|  | Time scale |  |
|  | Temperature scale |  |
|  | Elementary charge | **(exact)** |
|  | Charge Counter |  |

The strength of this approach lies in the fact that all other "fundamental" constants can now be calculated as combinations of our counters and scales, which demonstrates their derivative nature.

**Table 8.2. Comparison of the calculated values of standard constants with official CODATA data.**

| **Constant** | **Formula in the model** | **Calculated value** | **CODATA 2022 value** |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  | **(exact)** |
|  |  |  | **(exact)** |
|  |  |  |  |
|  |  |  | **(exact)** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

As can be seen from the table, our system not only reproduces the values of the constants but also reveals their internal structure. For example, the speed of light *c* appears as the ratio of the quanta of length and time, while Planck's constant *h* is shown to be linked to the global state of the Universe through the **Prime Counter N₀**.

**8.6 Cosmological Verification and the Evolution of Constants**

The proposed system allows for a direct connection between microphysics and cosmology. The global parameters of the Universe—its total mass (Mᵤ), radius (Rᵤ), and age (Tᵤ)—can be expressed through the **Prime Counter N₀** and the corresponding standards:

The order of magnitude is in good agreement with the estimates within the standard cosmological model. But most importantly, our model provides a direct expression for the **Hubble constant H₀**:

This value falls within the range discussed in modern cosmology, and, more importantly, it is **falsifiable**. Future, more precise measurements of H₀ will serve as a direct test of our entire system.

Moreover, if we accept that the **Prime Counter N₀** reflects the passage of cosmological time and is increasing, this leads to a radical consequence: some "constants" must evolve. From our formulas, it follows that *c* and *G* remain invariant, as they are determined solely by the ratio of the standards. However, **Planck's constant *h*** must increase in proportion to N₀. Since the value of *h* has been fixed in the SI system as of 2019, this drift should manifest indirectly, through growing discrepancies in the measurements of other quantities that rely on the immutability of *h*.

**8.7 A Deeper Structure: From ​ to**

The system can be made even more elegant by introducing a new dimensionless parameter, **​**, which connects the **Large Numbers** of the electron and proton with the **Prime Counter**:

**(8.1)**

This allows for the fine-structure constant α to be expressed in a strikingly simple and profound form:

**(8.2)**

Comparing this with the well-known formula (SI) we get:

(8.3)

Evidently,

- is a special quantity of charge (we will henceforth call the Charge Counter)

- is a special "portion" of mass.

Then (8.3) can be written as:

**,** (8.4)

which poses the question of the physical meaning of the charge ?

Let us note that for the Charge Counter, the following is also true:

(8.5)

where  **.**

This expression for is of the form , where

Its solution is the Lambert W function, :

(8.6)

**8.8 The Ratio of Scales**

Let us consider the ratios of scales that have already found application in modern physics and cosmology. Besides the well-known and  the following three are of interest:

1)The combination ​ is interpreted as the **maximum possible ratio of mass to length in nature**. This limit is directly related to one of the most extreme objects in cosmology—black holes—and serves as a fundamental principle defining the structure of gravitationally bound objects, distinguishing them from unbound systems .

2) The quantity ​ has at least two important physical interpretations:

* **Maximum Mass Flux**: In some theoretical frameworks, Gc3​ is considered the maximum possible mass flux. This can be understood as the ultimate rate at which mass can be converted into energy or transferred in a given process, such as during the evaporation of black holes or in other extreme astrophysical phenomena.
* **Impedance of Spacetime**: Just as electrodynamics has the impedance of free space, which determines the ratio of electric and magnetic fields in an electromagnetic wave, the impedance of spacetime characterizes its resistance to perturbations, such as gravitational waves.

3) The **Planck force**, ​, which we will henceforth denote as , represents the theoretical **maximum force** permissible within the framework of modern physical concepts. This colossal value marks a boundary beyond which the laws of physics as we know them, particularly the general theory of relativity, cease to apply. If one were to attempt to apply a force exceeding this limit, the result would not be the acceleration of an object, but the collapse of spacetime and the formation of a black hole. Thus, the very structure of the Universe imposes a limit on the magnitude of force. The concept of the Planck force as a maximum has profound theoretical consequences:

* **Prevention of Singularities**: The existence of a maximum force may help resolve the problem of gravitational singularities—points of infinite density and curvature predicted by general relativity at the centers of black holes. If force has a limit, then the curvature of spacetime cannot become infinite.
* **Connection to Quantum Gravity**: The Planck force arises at the intersection of general relativity and quantum mechanics. It points to the scales where the effects of quantum gravity become dominant, necessitating the creation of a unified theory that describes both of these fundamental interactions.
* **A Fundamental Limit**: Similar to the speed of light, which is the ultimate speed for information transfer and the motion of massive objects, the Planck force can be considered another fundamental constant that defines the boundaries of physical reality.

Taken together, all these ratios are considered fundamental limits that define the principles of relativistic gravitation and the general theory of relativity. They translate abstract constants into physically significant limits that characterize the dynamics and structure of the Universe.

**8.9. Conclusion: Numerology as a Manifestation of Order**

We have shown the following—what at first glance appears to be numerology is, in fact, a manifestation of a deep, coherent structure of reality, in which the micro- and macro-worlds are connected through a single set of dimensionless counters and quanta. This new system not only reproduces the known values of the constants, but also:

* **Explains their origin**: The constants are derivatives of more fundamental, countable quantities.
* **Connects them to cosmology**: The values of the constants are found to be linked to the age and dimensions of the Universe.
* **Makes testable predictions**: The model predicts a specific value for the Hubble constant and a possible drift in other constants, which opens the way for its experimental verification.
* **Reveals their physical meaning more deeply**: The ratios of scales are already used in modern physics and are considered fundamental limits that define the principles of relativistic gravitation and the general theory of relativity.

Thus, the revision of the SI system within our model is not just a technical replacement, but a profound paradigm shift, asserting that physical reality and its laws are the product of the structuring activity of the Observer, and its numerical parameters are a reflection of that structure.

***Appendix 1***

**Formulas for calculating the values of the counters and scales:**

***–*** "The Large Number of the electron"

***–*** "The Large Number of the proton"

***– The Compton wavelength of an electron***

***– gravitational radius of the electron***

***– classical radius of the electron***

***– Charge Counter***

**Chapter 9: Laws as Relationships Between Modalities**

**9.1. From Properties to Interactions**

In the preceding chapters, we established that physical quantities, such as mass or extension, are not intrinsic, absolute properties of **Couplings**. They arise as the result of "measurement"—a specific interaction of the **Observer-Genome** with a **Coupling** through a particular "perspective," or *modality of observation*. Each modality provides a quantitative, quantized assessment of the

**Coupling's** structural response, expressed as an integer—the number of quanta of that modality.

Now, we take the next, decisive step. If individual properties are projections, then what are **physical laws**? In our model, the answer is unequivocal: laws are not external prescriptions that govern the world, but **stable, reproducible relationships between different modalities of observation**. A law is not how "things behave on their own," but how the results of our measurements from different perspectives correlate with one another.

This means that a physical law is a statement formulated in the language of the **Genome** and within the framework of its cognitive resource, **OR**. It describes how a change in the value of one modality (e.g., extension) is related to a change in the value of another (e.g., force).

**9.2. The Language of Laws: Normalized Modal Values**

To express these relationships, we need a universal language. Since each modality (mass, charge, extension, etc.) is expressed in its own, integer-based quanta, a simple comparison of these numbers is meaningless. We need a common scale, a common denominator.

This denominator is the **Prime Counter N₀** — the cumulative number of all registered events in the **Genome's** observable "bubble of reality." N₀ represents a measure of the total informational complexity or "age" of the perceived world.

Therefore, we introduce the concept of a **normalized modal value**. For any modality X (mass, charge, force, etc.), its normalized value is the ratio of its quantitative characteristic (which we will denote as Nₓ) to the **Prime Counter N₀**:

**Normalized value of a modality:**

This is a dimensionless quantity that shows the "weight" or "significance" of a specific measurement against the backdrop of the entire set of registered events. It is in terms of these relative, normalized values that fundamental laws are formulated.

 **Nₘ** is the quantitative characteristic in the modality of **mass**.

 **Nₒ** is the quantitative characteristic in the modality of **charge**.

 **Nᵣ** is the quantitative characteristic in the modality of **extension**.

 **Nf** is the quantitative characteristic in the modality of **force**.

 **Nₜ** is the quantitative characteristic in the modality of **time**.

Let us compare the normalized values of the modalities of mass and extension for two Couplings:

Then it is evident:

The coefficient of proportionality is the relationship between these Couplings, another perspective on their joint assessment, which, by analogy, can also be called a modality. Let us denote its normalized value as .

We get:

(9.1)

Now let us consider the two **Couplings** as a single two-pole **Coupling** with a single extension parameter, ​, poles ​, and another internal parameter, .

After simplification, expression (9.1) is transformed into the following expression:

(9.2)

This formula is none other than the inverse-square law, expressed in the language of modalities.

It is not postulated but is derived from the very structure of the observed relationships, and it shows that a new modality can be introduced as a direct consequence of the relationships between other modalities.

### 9.3. The Law of Universal Gravitation as a Relationship Between Modalities

By analogy with other modalities that are proportional to the **Prime Counter**, we can write the following for the new modality:

.

Now let us choose a name and a scale for the new modality.

As an example, we know from the previous chapter that the scales of mass, length, and time define the scale of force:

Substituting into (9.2) and performing a series of identical transformations for the Force modality, we obtain:

Taking into account that:

,

as a result, we obtain the classical notation for the Law of Universal Gravitation:

### 9.4. Coulomb's Law as a Relationship Between Modalities

A similar approach can be applied if the parameters of the **Coupling's** poles are the normalized values of the **Charge** modality. However, it must be taken into account that such parameters are normalized not to the **Prime Counter**, but to the **Charge Counter** :

(9.3)

Let us perform transformations analogous to the previous ones:

And, considering that , we obtain the formula for Coulomb's Law:

Note that formula (9.3) not only describes the inverse-square law for charges but also contains a striking prediction: the force of electromagnetic interaction is not constant, but evolves along with the entire system, as it depends on the counters N₀ and Nₒ. This is a radical departure from standard physics, but it is a direct consequence of our model, where laws are a product of the Observer's activity. Furthermore, considering the 0-YES-NO-OR hierarchy, the counter will be a derivative of , and it is very important to subsequently determine their functional dependence.

### 9.5. The Principle of Modal Equivalence and Fundamental Arbitrariness

Defining the status of Force as a modality raises the question of the possibility of choosing it as a fundamental one. An analysis of the model's structure shows that such a choice is not only possible but also reveals another profound aspect of its relational ontology—the interchangeability of fundamental concepts.

The entire structure of the model is built on relationships and proportions. If the maximum force is defined as then this equation can be algebraically rearranged to express any of the "quanta" in terms of the others and ​.

For example, the quantum of mass can be defined as:

This simple possibility of algebraic rearrangement has profound ontological consequences. It demonstrates that none of the modalities—mass, length, time, or force—is absolutely primary in relation to the others. The choice of the set {mass, length, time} as the "base" modalities is a convention, a choice of a convenient basis for description, which is rooted in our classical intuition.

True reality, as it appears in this model, is not a set of basic properties but a network of self-consistent relationships. This is analogous to a system of linear equations, where any variable can be expressed through the others. The choice of which variables to consider "independent" and which "dependent" is a matter of convenience for solving the system; it does not change the system itself. This reinforces the central constructivist and relational philosophy of the model, where meaning is born in relationships, not in essences.

### 9.6. Conclusion: Laws as the Syntax of Perception

Within our model, physical laws lose their status as mystical, eternal, and immutable tablets given to the world from outside. They appear as **syntactic rules** by which the **Observer-Genome** organizes its experience. This is the grammar of its perception of reality.

Laws are relationships between modalities because the **Genome** itself can only know the world by comparing the results of its own measurement acts. It cannot "see" force in itself; it can only register that a change in the "mass" and "distance" modalities consistently correlates with a change in the modality that it calls "force."

Thus, we complete our transition from ontology to physics. The fundamental laws of nature are not a description of the world "as it is," but a description of **the structure of our own view of the world**. They are the deepest and most stable manifestation of the fact that we, as observers, are inextricably woven into the fabric of reality and actively participate in its co-creation.

**Part II: The Practical Method. From Observer to Co-Creator**

**Chapter 1: From the Genome to the Field of Co-Creation: The Principle of Collective Observation**

**1.1. Introduction: A Single Reality, Unique Systems of Perception**

In the preceding chapters, we laid the foundation of our model, describing Reality not as a given, but as a unified process of becoming. We postulated that the Observer is an active participant in this process. We introduced the concept of the **Genome**—a unique system of observation that generates and maintains an internally consistent, holistic picture of the world.

Such a system includes not only the entire biosphere, from microbe to human, but also the planet itself and the visible cosmos—the whole of physical reality as it is perceived and actualized through this single mode of observation.

We do not claim that a billion separate universes exist. We assert that there is one field of potentialities, and our **Genome** is but one of the countless forms in which this field acquires a stable, perceivable structure. Another **Genome**, having arisen under different conditions, would have given rise to a different biology, a different physics, and would have seen a different sky.

Now we approach the key question: if individual subjects within our **Genome** are capable of "assembling" this reality that is common to them, what would happen if a multitude of these "points of reference"—the consciousnesses of people—were to momentarily synchronize their perspective? What if they were to focus on the same aspect of the field of potentialities in a coordinated manner, in a single rhythm?

We assert that this step—the transition from fragmented perception to coherent observation—is a qualitative leap. It allows for a shift from the passive registration of the world to active, conscious participation in its becoming. To investigate this possibility is the primary practical task of the

**"QUANTUM ICEBREAKER"** project.

**1.2. From Sum to Synergy: The Coherent Field of Attention**

A simple arithmetic sum of individual perceptions is not enough. A thousand ordinary light bulbs shining out of sync will never create the effect of a laser. The key difference between them is **coherence**. In a light bulb, photons are emitted chaotically, their phases are random, and their energy is dissipated. In a laser, however, all photons have the same phase, frequency, and direction—they act as a single, ultra-powerful wave capable of cutting steel.

We propose that the same principle applies to observation. When a multitude of observers act in a fragmented way, their perception is like the light of a bulb—it illuminates reality but is incapable of changing it in a directed manner. But if their "points of reference" are synchronized, a new phenomenon arises—a **Coherent Field of Attention**.

**Synchronization** is the key that transforms a sum into a synergy. It is not only a coincidence in time but, more importantly, a **resonance of intention**. When participants in an experiment focus on the same thought, image, or goal at the same moment, their individual "rays" of perception add up in phase. A powerful, focused "laser" of collective attention emerges, capable, we believe, of interacting with the field of potentialities on a much deeper level. The creation and investigation of this field is our first practical task.

**1.3. Three Horizons of Research: Our Core Hypotheses**

The logic outlined above leads us to three interconnected hypotheses that form the experimental basis of the "QUANTUM ICEBREAKER" project. They represent three levels of our research: from the fundamental principle to its practical application and worldview implications.

* **Hypothesis 1: Fundamental**

"The synchronization of several 'points of reference' (observers) creates a unified coherent field of attention, capable of exerting a non-random, directed influence on a target system.”

* **Hypothesis 2: Practical**

"A synchronous collective intention, directed at a stochastic (random) system, is capable of causing statistically significant deviations from the standard probability distribution within it.”

* **Hypothesis 3: Worldview**

"Reality is a product of observation. We hypothesize that the act of collective, coordinated observation is a higher-order instrument—an act of co-creation, capable not just of selecting one of the existing probabilities, but of actively shaping and ordering the very structure of the field of potentialities.”

These hypotheses are not dogmas, but invitations to a joint investigation. They are the map for our expedition into the unknown.

**Chapter 2: The "QUANTUM ICEBREAKER" Method: From Theory to Unified Practice**

**2.1. Introduction: From "Why?" to "How?"**

Theory without practice is a map without a journey. Having formulated the fundamental hypotheses of our research in the previous chapter, we inevitably arrive at the main question: how can we test them? How can a group of independent researchers, scattered across the globe, act as a single, coordinated instrument?

The answer lies in creating a common, agreed-upon **Protocol**—a set of simple and clear rules that will allow us to synchronize our individual actions into a single collective act. This chapter is dedicated to describing this method. It is the bridge from the philosophical "why?" to the practical "how?," from the map to the expedition itself. Here, we describe not *what* we believe, but *what* we will do together.

**2.2. Our Instrument: The Observer-Genome**

Before describing the protocol, we must define the main instrument we will be using. In our research, this instrument is not an external device, but we ourselves—our own system of perception. We call it the **Observer-Genome**.

This is not just a metaphor. We view the **Genome** as a highly complex, self-organizing system that continuously registers and interprets the flow of distinctions, thereby "assembling" our reality. It possesses an innate sensitivity to fundamental fields and rhythms, including the field of **"Overflow,"** which we postulated earlier .

In its normal state, the **Observer-Genome** is tuned to the background, chaotic noise of this foundation of reality. The task of our Protocol is to teach the "crew" to temporarily shift their systems of perception into a coherent mode, transforming them from passive receivers into active, focused resonators. It is this capacity of our **Genome** for resonance and purposeful focus that lies at the heart of the entire collective experiment .

**2.3. The General Protocol for the Collective Experiment**

The Protocol is a sequence of actions that ensures the coherence and purity of our experiment. Participation in the "QUANTUM ICEBREAKER" expedition does not require special equipment or unique abilities—only precision in following this protocol, which is common to all. It consists of four steps .

**Step 1: Formulating the Intention** Before each experiment, the project's core team formulates and publishes a clear, unambiguous, and concise **Intention**. This is the goal on which the "crew's" attention will be focused. The Intention may concern an influence on a physical, biological, or informational system .

Example of an Intention: "To accelerate the germination rate of seeds in target sample A compared to control sample B."

The clarity and unity of the Intention is a critically important first step.

**Step 2: Synchronization** To create a coherent field, we need to act in unison. Along with the Intention, a precise "synchronization window" is announced :

* **Start date and time** (in Coordinated Universal Time, UTC).
* **Duration** (typically no more than 15 minutes).

The task of each participant is to ensure they have a calm environment during this interval to fully dedicate it to the experiment.

**Step 3: Conducting the Experiment (The Act of Observation)** At the appointed time, each member of the "crew" performs the same simple action:

* Brings themselves into a **calm, neutral state of consciousness** (without strong emotions or extraneous thoughts).
* Begins to **hold the image and essence of the formulated Intention** in the focus of their attention.

This is not a strenuous mental effort, but a calm, clear concentration. It is important not to "wish for" the result, but simply and clearly to "hold" the intention, acting as a pure observer who already sees the process as realized.

**Step 4: Data Collection** After the "synchronization window" is complete, a special form is opened on the project's website. Each participant is asked to briefly and honestly describe their subjective experience during the experiment :

* Any sensations that arose.
* Extraneous thoughts or images.
* Any unusual phenomena or synchronicities noticed within the next 24 hours.

These subjective reports are a crucial part of the data, on par with objective indicators (if any are measured). They allow us to study correlations and the overall picture of the field we have created .

**2.4. The Researcher's Ethics: The Role of the "Crew"**

Following the technical steps of the Protocol is only half the battle. The success of our expedition depends equally on the internal state of each participant. To be a member of the "QUANTUM ICEBREAKER" crew means to share several key ethical principles :

* **Openness without expectation.** Our main goal is research, not proving a predetermined result. We approach each experiment with an open mind, ready to accept any outcome, including a complete lack of a visible effect. Attachment to a specific result creates mental "tension" that can distort the purity of the observation .
* **Honesty in reporting.** The subjective data we collect is valuable only when it is completely honest. It is important to describe your experience as it was, not as it "should have" been. Doubts, distractions, and a lack of sensations are just as important a part of the data as vivid insights .
* **Respect for the Process.** We acknowledge that we are working with subtle and little-understood phenomena. Respect for the common Intention, for other participants, and for the observation process itself is the foundation of our collaborative work .

Adopting these principles transforms us from a group of individual experimenters into a unified, coherent research instrument—a true "Crew," ready to sail into uncharted waters.