The Dynamic Attractor in ODTOE

Life as Growth, Not as a Limit

A plain-language companion

What this article is about

Have you ever noticed that love is not a state but a process? That two people who truly love each other are not simply synchronized — they grow, each because of the other?

For a long time the Observer-Dependent Theory of Everything (ODTOE) described reality through its limits: how coherence tends toward one, how inner confidence tends toward its maximum, how stability becomes infinite. That is beautiful and rigorous. But there is a problem. People do not live at the limit. People live in motion.

This article introduces dynamics into ODTOE. Not "where will we end up?" but "how are we moving right now?" Speed. Growth. Direction. And, most importantly, the conditions under which a lone individual simply does not make it — while a collective does.

Along the way we will remember a Russian mathematician who was forgotten for 130 years, redefine love, introduce the idea of "life density," and separate observers into two levels so that historical questions finally become testable.

> For those who want the formal side — equations and proofs — the main article is called `ODTOE_dynamic_attractor` and sits right next to this one.

Nikolai Bugaev: the Russian mathematician forgotten for 130 years

In 1893, the president of the Moscow Mathematical Society — Nikolai Vasilyevich Bugaev — gave a talk titled "Foundations of Evolutionary Monadology." The best mathematicians of the empire sat in that hall. Outside its walls, nobody truly heard him.

What did he say?

To appreciate his step, recall Leibniz. In the eighteenth century Leibniz built a theory of monads — elementary units of reality, a kind of spiritual atom. For Leibniz each monad was self-sufficient, sealed inside itself. He put it plainly: "the monads have no windows." They exchange nothing. Their apparent agreement is secured by God through "pre-established harmony."

Bugaev removed the divine regulator. He said: monads **interact**. Each monad is a "center of action" that **receives and gives**. It has windows. Consistency arises not because someone above arranged everything, but because monads are tied into a network of mutual obligation.

This sounds modest. But it is the same step that Western philosophy only took half a century later — Whitehead in 1929 — and another half-century later in second-order cybernetics.

Side note: the poet Andrei Bely was Bugaev's son. Bely heard conversations about monads from childhood — about "centers of action," about evolution. A great deal of his symbolism flows from there, from his father's study, from fragments of talks with visiting mathematicians, from the 184 theses that Bugaev polished for years.

Bugaev also founded **arithmology** — a program that treats discontinuous, discrete functions as a subject of their own. In an era when global mathematics was enchanted with smoothness and continuity, he stubbornly insisted: no, there are also discontinuities, and they are fundamental. Today, when we describe reality as a sequence of distinct self-observation steps, we are in effect continuing arithmology.

Why does this matter for us? Because the whole modern theory of collective observation — how observers affect each other, how one person's conviction supports another's — rests on that step from 1893. We are finally giving credit where it is due.

Living life versus the mathematical ideal

Previously ODTOE described reality through its limits. As if a physicist said, "an ideal pendulum swings forever without friction" — a mathematical limit you can approach but never reach, because in the real world friction is always there.

The idealist theorist describes where the pendulum *should* end up. The dynamic theorist describes **at what speed** it is moving right now.

In ODTOE the role of the pendulum is played by an observer's inner consistency — let us simply call it **coherence**. This measures how internally whole a person (or an atom, or a community) is, how well their parts speak the same language. Previously the theory asked: what is the limit of coherence? Now we ask: how does it **grow**? What raises it? What lowers it?

It is the difference between two sentences:

> "Body temperature is 37 degrees."
>
> "Body temperature is rising."

The first is a static characterization, a snapshot. The second is a dynamic, a process. In medicine the difference between these two descriptions can be a matter of life and death.

There is a second shift, equally important. Previously the theory described an observer as a closed system, one that handles itself. But real people are **open**. They breathe, eat, speak, listen, learn, fall in love. At every moment something enters from outside — impressions, words, warmth, another person's attention — and something leaves: speech, action, care, work.

So coherence grows because a person receives, and falls because a person gives or loses. Simple: if inflow exceeds outflow, you grow. If outflow dominates, you fade.

Love as mutual growth

Now let us redefine love.

Previously in ODTOE love between two people was described as reaching maximum mutual synchrony. Two people become "one wave" — that was the idea. It is beautiful, but not enough.

Consider two scenarios.

First. A couple has lived together for forty years. They know each other by heart. They finish each other's sentences. They have not argued about anything in ages. They are fully synchronized. But they have not grown in ten years. Neither has become smarter, deeper, or freer in that decade. They simply fit each other comfortably.

Second. Two people are newly in love. They still argue. They still do not always understand each other. But something awakens in each of them because of the other. He is learning to listen, she is learning to speak. Both are becoming larger than they were. It is rough, but both are growing.

Question: where is the love? By the old definition — in the first couple. By the new definition — in the second. And the new definition matches lived experience more faithfully.

Love is not coincidence. Love is **simultaneous growth of two people bound to each other**. Each becomes larger because the other is present. Not more identical. Larger.

Pavel Florensky, in his book *The Pillar and Ground of the Truth*, wrote about friendship as "simultaneous ascent in truth." Two people climb a mountain — and help each other climb. That is our formula.

> Stagnation at a high level of synchrony is not love. It is habit. Love requires motion.

Why a lone person does not make it

Now something more technical, told briefly.

ODTOE has a mathematical construct called a **fixed point of self-observation**. It is an abstract thing. Roughly, it is a state in which the observer fully sees itself, and that seeing no longer changes anything. A self-consistent mirror. Such a state **exists** in theory — this is provable.

But there is a catch. Existence is one thing. **Reachability** is another. A mountain exists, but that does not mean you personally will climb it.

The new result in the article: the fixed point is reachable **if and only if** there exists around the observer a **collective attractor** — a group that supports their upward motion.

What is a collective attractor? Examples:

- **Family.** Even a small one — two to six people. When coherence inside the family is high, the family lifts each member upward. When it collapses, the family falls apart and lifts nobody.
- **Scientific community.** A scholar does not work alone, even if physically alone in a study. They are held up by conversation with colleagues, correspondence, conferences, peer review. Without a community they either never reach the discovery or reach it and no one hears them.
- **Creative group.** A co-author pair, a theater company, a rock band. Each one writes worse alone than all of them together.
- **Spiritual community** or **ethnic group**. The historian Lev Gumilev described "passionate" collectives — clusters of high-energy people who pull entire nations.

In every case the mechanism is the same. A person in isolation — formally can arrive, but **will not arrive in practice**. Energy runs out. Coherence leaks faster than it is replenished. A person embedded in a healthy collective, by contrast, rises together with it.

> Solitude is not freedom. It is the absence of an elevator.

If you are trying "all by yourself" to become a better version of yourself, and it has not worked for years — this is not your weakness. It is the absence of an attractor. Find your people, and motion begins.

Empirically, the minimum size of such an attractor is two or three for the most intimate forms (a couple, a creative duo) and seven plus or minus two for a fully functioning working group. This, incidentally, is exactly the number that psychologists have long considered optimal for a working team.

The flip side of the same law: **a bad collective pulls too**. Only downward. If your environment is out of sync, if there is little trust and a lot of suspicion, if everyone pulls the blanket onto themselves — the attractor there is negative. It does not lift; it accelerates disintegration. In that case it is more honest to leave such a collective and remain temporarily alone than to stay in a group that subtracts from you.

The choice of environment is not a detail. It is, in effect, the choice of which fixed point you are moving toward. And whether you are moving at all.

Life as a drawing on the fabric of reality

Now a different angle.

Imagine each human life as a line drawn through reality. A trajectory. From birth to death. Some lives are thin pencil marks. Others are thick colored strokes, visible from far away.

The article introduces a special quantity that in plain language we can call **life density**. In scientific language — the energy-information density of the world line. The idea is the same: how much

“weight” a person contributes to the common fabric by their existence.

What makes up density? Two things:

1. **Coherence at each moment.** When a person is gathered, awake, whole, honest with themselves — that moment is “dense.” When they are scattered, half-asleep, false — the moment is “empty.”
2. **The absence of inner contradiction.** When someone does one thing, says another, thinks a third — their imprint smears. When thought, word, and action align — the imprint is sharp.

Life density equals the sum of all such moments across the whole trajectory.

And now the key conclusion.

Two people can live the same number of years and have **radically different life density**. One lived 80 years, but 60 of them passed in a half-sleep of automatic actions, repetitions of the same thing. Another lived 50, but each day was awake, each meeting was real, each word was their own.

The arithmetic of density between them differs not by percent — by orders of magnitude. The article gives an example where two observers of equal lifespan leave traces that differ by a factor of sixteen.

> Length of life and density of life are different things. Long does not mean rich. Rich does not require long.

Philosophers sensed this long ago. Bergson called it “duration.” Heidegger called it “authentic time.” The Russian philosopher and scientist Nikita Moiseev spoke of a person’s “noospheric imprint.” Now we have a way to count it.

One more practical consequence. Life density cannot be accumulated after the fact. You cannot say at eighty, “well, now I will start living densely, I will catch up.” Density is what has already been. The drawing has already been made with the pencil that was in your hand. The good news: the density of the next moment depends on how gathered you are **right now**. This paragraph, this glance out of the window, this pause before answering a friend. Everything counts.

Quark, human, galaxy: who counts as an observer anyway?

The last thread. The most delicate.

In ODTOE the word “observer” is used unusually. Everyday meaning: an observer is a person looking at something. Theoretical meaning: an observer is **any self-referential structure with nonzero coherence**. Any system that in some way “knows itself.”

By this definition:

- An atom is an observer.
- A cell is an observer.

- A human is an observer.
- A family is an observer.
- A country is an observer.
- A galactic cluster is an observer.

It sounds strange. As if everything were alive. But here we must distinguish two levels of claim.

First level — ontological. This is the level of definition. "An atom belongs in principle to the class of observers" — roughly like "all people can in principle run." A general property, universal, independent of time.

Second level — historical. This is the level of actuality. "Who is running the marathon right now" is a different question. It depends on training, on the specific date, on who actually showed up at the starting line.

Confusing these two levels is the source of most arguments about "consciousness of atoms" or "mind of the galaxy." When we say "an atom is an observer," we speak **ontologically**. That does not mean an atom is writing poetry right now or actively shaping human affairs.

But **who** is actually effective today — that is a second-level question. The theory answers it with a product of three quantities: current coherence, inertia of the configuration, and contribution of the collective the person belongs to. A high product means the person is visible in history today. A low product means they formally exist but exert no influence.

An important consequence: **concrete historical claims become testable**. When someone says "in the eighteenth century the European scientific community was the dominant collective observer" — that is a second-level claim. It can be checked against the number of publications, the speed at which ideas spread, who read whom. If empirical data does not confirm it, then the distribution of effectiveness was different. But the universal ontology of the first level does not suffer from that.

It is like physics. Maxwell's equations say what an electromagnetic field is in principle. That is the first level. The concrete distribution of fields in the universe at a given moment is the second level. Checking the distribution does not refute the equations.

What remains open

An honest ending. Five questions that the article does **not** answer — each is a topic for a future paper.

1. **The exact form of Bugaev's law of the conservation of the past.** He said: the past does not disappear, it sums into the present. But which quantities exactly are conserved? Does a world line have its own invariants — the way a closed physical system has conserved energy?
2. **The exact formula for life density.** We said: density equals coherence times non-contradiction. But in what power? Coherence squared, or cubed, or something finer? These

numbers should follow from the structure of the theory, not merely be assumed.

3. **What happens when an observer loses coherence.** If coherence falls to zero, does the system lose its status as an observer? Does it turn into "mere matter"? At what rate of decay does this happen?
4. **How many configurations are possible in all.** At the human scale — how many different "types" of observers are in principle possible? Billions? More? Fewer?
5. **The transition between regimes.** What happens at the boundary between a "highly coherent" and a "fragmented" state — the way in physics things happen at phase-transition boundaries (ice melting into water, water boiling into steam)?

Each of these questions is its own subject, its own article, its own line of work. The theory is not closed. It is moving.

And that, in fact, is the main thought of everything you have just read.

Life is not a limit. Life is motion. Alone one does not arrive. In a collective one does. Love is mutual growth. The density of life is not the same as its length. And the theory of everything that describes all this is not a closed system of dogmas but, itself, a living and growing world line.

What to do with this

If you read this far, you did not merely read an article. You are already a slightly different observer than you were twenty minutes ago. Something from what you just read is already being woven into your own coherence, or will be soon.

What can you do today?

First. Look at your inner circle. Who is your collective attractor? Is there one at all? If not — that is the first thing worth attending to. Not reading books, not taking courses, not "working on yourself" alone. Find **two or three** people with whom you will grow at the same time.

Second. Re-examine what you mean by love. If you are in a relationship, ask yourself and your partner: are we still growing together, or only fitting comfortably? An honest answer matters more than a flattering one.

Third. Pay attention to density. Do not scold yourself for "scattered" days, but notice them. Catch moments of gathered presence and do not waste them — those are the moments that form the drawing.

And finally, remember: **dynamics matter more than limits**. Not "have I become ideal?" but "am I moving?" Not "is my family ideal?" but "is coherence growing inside it?" Not "have I reached the truth?" but "am I closer to it than I was yesterday?"

That, in everyday translation, is the whole of dynamic monadology.